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## ***Generativity is a Core Value of the ESJ: A Decade of Growth***

Erik Erikson (1902-1994) was one of the great psychologists of the 20th century<sup>1</sup>. He explored the nature of personal human identity. Originally named Erik Homberger after his adoptive father, Dr. Theodore Homberger, he re-imagined his identity and re-named himself Erik Erikson (literally Erik son of Erik). Ironically, he rejected his adoptive father's wish to become a physician, never obtained a college degree, pursued independent studies under Anna Freud, and then taught at Harvard Medical School after emigrating from Germany to the United States. Erickson visualized human psychosocial development as eight successive life-cycle challenges. Each challenge was framed as a struggle between two outcomes, one desirable and one undesirable. The first two early development challenges were 'trust' versus 'mistrust' followed by 'autonomy' versus 'shame.' Importantly, he held that we face the challenge of **generativity** versus **stagnation in middle life**. This challenge concerns the desire to give back to society and leave a mark on the world. It is about the transition from acquiring and accumulating to providing and mentoring.

Founded in 2010, the European Scientific Journal is just reaching young adulthood. Nonetheless, **generativity** is one of our core values. As a Journal, we reject stagnation and continue to evolve to meet the needs of our contributors, our reviewers, and the academic community. We seek to innovate to meet the challenges of open-access academic publishing. For us,

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<sup>1</sup> Hopkins, J. R. (1995). Erik Homburger Erikson (1902–1994). *American Psychologist*, 50(9), 796-797. doi:<http://dx.doi.org/10.1037/0003-066X.50.9.796>

generativity has a special meaning. We acknowledge an obligation to give back to the academic community, which has supported us over the past decade and made our initial growth possible. As part of our commitment to generativity, we are re-doubling our efforts in several key areas. First, we are committed to keeping our article processing fees as low as possible to make the ESJ affordable to scholars from all countries. Second, we remain committed to fair and agile peer review and are making further changes to shorten the time between submission and publication of worthy contributions. Third, we are looking actively at ways to eliminate the article processing charges for scholars coming from low GDP countries through a system of subsidies. Fourth, we are examining ways to create and strengthen partnerships with various academic institutions that will mutually benefit those institutions and the ESJ. Finally, through our commitment to publishing excellence, we reaffirm our membership in an open-access academic publishing community that actively contributes to the vitality of scholarship worldwide.

*Sincerely,*

***Daniel B. Hier, MD***

*European Scientific Journal (ESJ) Natural/Life/Medical Sciences*

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ESJ Social Sciences

# **The Relationship between Strategic Targets and Measurement: Structuring a Calibration Model of Planning, Measuring, and Implementing Performance Considering Non-financial Factors**

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## **Abstract**

Institutions and sub-organizations that manage public funds show differences in many aspects, whether taking into account their tasks, financing, or structure. The difference is even greater when looking at an overview of organizations operating in the competitive sector. However, performance, its measurement and the management of changes based on these are the main characteristics of quality-oriented management. The issue is further complicated by the topic of sustainability and its measurement ability and capacity. For the sake of sustainability, not only business processes but also administrative organizations must strive for excellence today. This is supported by the fact that the functioning of a value-oriented organization, and the development of its processes in accordance with it, can be characterized by a strategic perspective (that is, long-term targeted goals) and a “customer-oriented” approach. It would be too simplistic to assume that by measuring everything adequately and accurately, we can approach the authentic analysis and evaluation of performance, as in the case of a multinational giant, for example, this comprehensive and detailed coverage unnecessarily complicates the measurement system and inevitably leads to obstacles and errors. Based on professional approaches, good performance and the path to achieving it, as



well as maintaining the results achieved, can be broken down into parts and, as such, we can strive to improve the whole by optimizing the parts. However, it is also a fact that the improvement of individual parts often contradicts each other, that processes can become dependent or even divergent, so perhaps we can achieve the most if we follow these from multiple dimensions, according to multiple points and principles, and consider the quality of the whole, as a unit, as a superior principle of part optimization. One significant element of this is that management defines and manages conscious action, that is, measures, then defines the expected in relation to reality: plans; directs the change process; measures the results; analyzes the effects; and at the same time places information in a decision-making hierarchy for the functioning and task fulfillment of the organization. This is also characterized by the maintenance of performance and the guarantee of sustainability.

In the processes of public service institutions, if we want to identify the criteria for expected performance, starting from the social usefulness and the concept of good governance - that is, why it is important to provide tasks in the most convenient and qualitative way - we will get to the importance of good organization management, efficient and efficient operation, quality management, creation of added value, and professional activity. Through the measurement of processes and the management of changes and the sustainability of goals. (In the public sector, performance is interpreted in the 3E or 4E framework, that is, economy, efficiency, effectiveness, and equity give a deep segmentation of performance. ) In the competitive sector, apart from the profit-oriented goal system, performance is determined by the expectations of the market, social, ecological, or political-legal environment, its adaptation, and not only its momentary state but its sustainability. Performance can only be expressed in one or a few specific indicators or parameters in the rarest cases. Even in the most streamlined profile organizations, we are talking about a more complex problem. This study, starting from this thought, shows how performance management, a management tool (usually organizational measurement), its trained and applied model (GAP: Gain Advanced Performance) can be connected in practice, how a set of points represented in a competitive sector and a theoretical model of an administrative organization can be made accessible with what approach, and how this can contribute to the efficiency of organizations in terms of state and shareholder expectations.

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**Keywords:** Strategy, Measurement, Change management, Indicator, Decision making, Sustainability

## **Introduction**

The basic and paramount "mission" of every organization operating in the public sector is to fulfill its public tasks in a proper, regular, and best quality manner, taking into account the public interest as a basic need, but handling the public resources, public financing economically and efficiently. Thus, it meets the requirements set forth in public administration, state control, and state-economic areas and fulfills the tasks desired by society. In the competitive sector, this goal system is aimed at satisfying customer needs with the maximum profit focus, taking into account non-profit-oriented, but strategic and legal compliance considerations, and the financial and non-financial expectations of other process participants (e.g. suppliers, consumers, lenders, investors, etc.). In addition to the above-mentioned point system, compliance with non-financial indicators, such as environmental, social, and management aspects, is becoming increasingly important in this operational sector. Although the two-goal systems are somewhat different, the parallelism is clear and assumes organizational awareness, which organizations summarize in strategic elements and set for themselves, and implement with the application of measurement methodologies.

The realization of an organizational mission requires a strategic management model that uses available resources to create an organizational performance. To ensure organizational control based on decisions supported by up-to-date, relevant, and reliable information, both the internal processes of the organization and the management of the external factors influencing the organization's control, activity, and resource management are essential, to which measurements contribute significantly.

It is clear that performance management, as a control tool for creating organizational performance, is necessary because the continuous collection and processing of information on the characteristics of individual performance elements (qualitatively and quantitatively) and especially their analysis in relation to each other must and should be the basis of the organization's decision-making system. At the same time, the method and purpose of the collection must be placed in a framework in which the leader must know exactly what it is for and in what connection it was built. The requirement for the selection and application of individual indicators is that they be reliable and comparable and that they ensure that the best combination of forecasts (ex ante), process-integrated controls and measurements, monitoring, and ex post evaluations are provided to promote performance. On the other hand, young strategic schools also place the focus on implementation and the sustainability of the set performance goals in their goals systems.

In addition, however, after using measurements as a tool for making our decisions, for promoting performance and, ad absurdum, for avoiding risks, it is also necessary to be aware of how data from these measurements

become information for our organization, how we derive new decisions and initiate changes based on it. The question may arise as to why we are making a model for this. As a leader in an organization, why do we operate with the cooperation of processes and the sustainability of results, instead of specifically observing individual processes and planning their key indicators?

In both the public and private sectors, there are currently numerous theoretical approaches to performance measurement, and even more, practical examples can be found across different fields, as the concept of performance and its measurement is highly divisive in terms of research and interpretation. Performance management in the public sector can be understood from macro to meso- and micro-levels, right down to individual levels. However, although general, practical examples of its implementation can be found, there is no 'universal model' for measuring and controlling change. Stepping out of the public sector and into the private sector, numerous practical solutions can be found (linked to digital platforms and connected to management programs). The 'hot topic', however, is whether we can set metrics and calibrate non-financial metrics when planning, measuring and implementing performance in terms of financial or any other quantitative effects. The question then arises: can one measure the unmeasurable and can public and profit-oriented organizations operating in different target and incentive systems learn from one another in this field?

## **Hypothesis**

According to the study, yes, connecting the models is possible. An important gap in public administration is the creation of a general practical model: this could be a small municipality's financial or administrative processes, or compliance with legal requirements, as well as a larger public administration body's reporting (e.g. communication, strategic planning, financial processes, or sustainability reports, etc.).

The best way to start is from a specifically developed model, which can be "stripped down" and made general based on experience in the application. Our thesis, which can be seen at the end of the study, consists of two parts:

- By linking the Balance Scorecard, Prism, and TQM models, organizational processes can be measured in multiple dimensions.
- Sustainability considerations and models from the public and competitive sectors can be made interoperable in the framework.

## **Overview of discussion**

The connection of models The Hungarian science of public administration has rarely used and uses the concept of strategy. This somewhat contradicts a government document from 2015 which states that "a

unified, hierarchical system of strategic planning documents has been established. Furthermore, the strategic [...] database was completed. Currently, out of more than 130 strategic planning documents, about 86 are in force. However, the prepared plans are often written in technical terms, not understandable, often unnecessarily extensive, and difficult to interpret [...]” The question that this thesis aims to address and explore is how, if management directs and consciously acts on organizational change, and then manages it, by measuring it, how can this be done in such a way that an existing organizational model is linked to it and can thus increase the conscious control of organizational performance; and to what extent this model can also be used as a supplementary “base” administrative model. In order to find a solution, we call upon two known models, one from the competitive and one from the administrative sphere. On the path of comparison, with a practical mindset and based on experiences, we also “build” the possibility of a third, complex model.

### **Strategic Management**

The implementation and operation of a performance management system, therefore, realizes the well-governed organizational model. In the case of a "well-governed organization", each organizational process contributes to the realization of the organization's mission. Strategic management is known to involve simultaneous consideration of numerous factors and the organization leader's leadership program (leadership tasks, directions, instructions, and areas of responsibility) in order to create a strategic-level goal system for individual operations and activity groups of the organization. Strategic management relies on data from the measurement and tracking of organizational processes from the creation of the goal system to the control of implementation, monitoring, and feedback. Performance management extends this logic to the entire operation and sustainability of the organization.

### **Problem identification, field overview, and determination of solutions**

Based on this discussion, the question arises as to whether a model like this can be made and, if so, to what extent it can become a generally applicable model solution for institutions operating in other areas or fields. To answer this question, we can again turn to the theory of strategic management: certain aspects of strategy planning and implementation contain regularly recurring groups of tasks supported by quality management, change management, and risk management, whose input data form the organizational performance indicators, among other things, even without model-related awareness. (Think of the global risk management strategy of a company operating in a competitive field, typically based on the risk of risk exposure of key indicators described by the performance indicators of the company. In simpler terms: the

biggest risk for the company is if something threatens the achievement of its key indicators, and its strategic goals, which it cannot avoid or manage.)

In the process of strategic planning, following the review of the mission, vision, and core values that define the strategy, we define the goal and task structure. Strategic planning is supported by quality control, change, and risk management - at the end of the implementation cycle, as feedback, results generated in the performance determination system are formed in both strategic management tasks and implementation of change management tasks. That is if this newly established solution is used in a smaller municipality with a simpler apparatus, budget, and limited tasks, the framework of the superior argument system (regulations, Fundamental Law, Local Government Act, management hierarchy, quality expectations, financial regulations, etc.) is present, just as in a larger public sector organization. It is not surprising that, in comparison, when we refer to the vision, ambition, and target system of an international large company, we will also find these frameworks in their overview: the legal operating environment, the use of norms and standards for both operational operations and organizational organization or shareholder compliance expectations. So, the control, management, and professional performance of a smaller organization should give the same compliance and compliance indications as for a larger organization; and a public service provider also shows strong similarities with a company operating in the competitive sector. The difference lies in the number and complexity of the origins of indicators and of course, in the definitions.

## **Methodology**

We face two main problems when trying to transfer experience and theory from the competitive environment to the public administration when assessing and applying measurement models for special professional tasks in public administration. Firstly, to select from existing and known performance models which one or based on which one we want to work, and secondly, to ensure that the developed new model is suitable for the unique and widely different tasks of the public sector. The first step required us to interpret performance management as a control system, using business models, starting from the administrative performance models, and then outlining the connection points between performance management and other management tools of the organization. This can be followed by an overview of the known models.

When selecting, it was taken into account that multidimensional performance management models try to depict the operation of the organization in several interrelated aspects, while classic performance management systems are mostly focused on finance, that is, performance is only examined from the perspective of one stakeholder - the owners. This

obviously proved too narrow in the strategic approach to the public sector. Thus, the Balanced Scorecard model (1992), developed by Kaplan and Norton, became relevant, which frames the management and management of the organization: four perspectives summarizing the grouping and measurement of the factors determining performance. Then an overview of the Performance Prism model (Neely, Adams, Kennerley, 2003) was made. The latter model starts from the satisfaction of the stakeholders, which reflects the circle of stakeholders, their needs, and expectations, and then takes into account the perspective of strategy, processes, and organizational capabilities. All these models can be used to determine the metrics according to which the measurements are implemented.



**Figure 1.** Balance Scorecard Model

Source: <https://www.professionalacademy.com/blogs/marketing-theories-balanced-scorecard/>

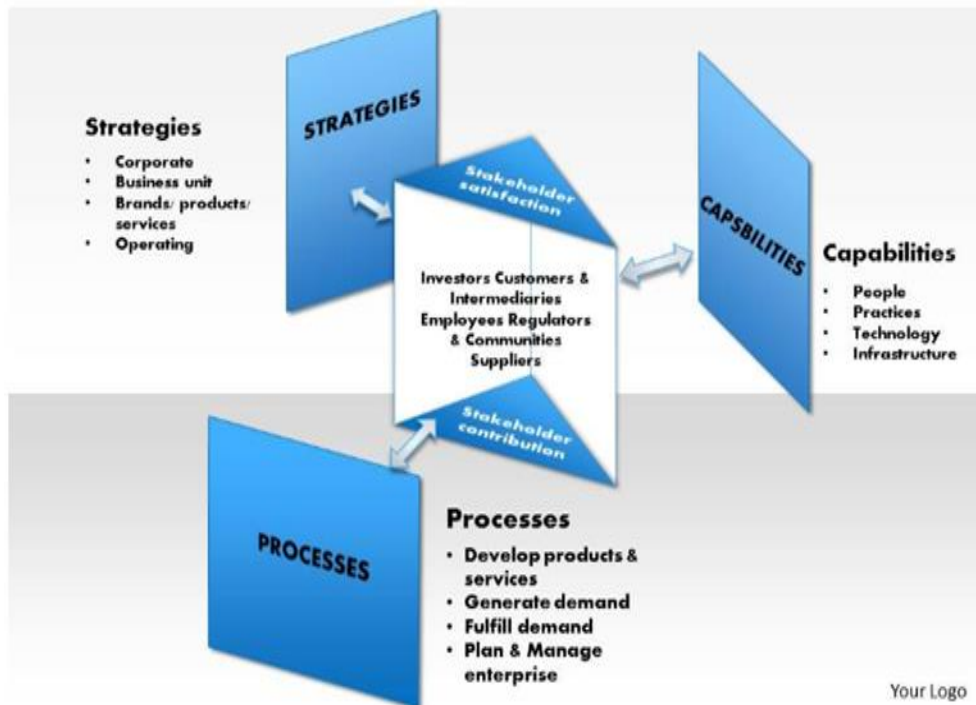


Figure 2. Performance Prism

However the PRISM model targets to ensure that performance measurement is integrated into the decision-making process; and cost of quality models (Feigenbaum, 1991), on the other hand, focuses on the identification and control of cost drivers, or non-value-adding activities which are themselves often embedded in the business processes; the major criticisms of these systems – unlike BSC model - are that they evidently ignore other perspectives on performance, like the needs of shareholders, customers, and employees.

The direct opposite of these approaches is benchmarking (Camp, 1989). Benchmarking tends to often compare performance with that of competitors or other ‘best practitioners’ of business processes. Furthermore, this kind of activity is frequently pursued as a one-off exercise towards generating ideas for short-term improvement initiatives, rather than the design of a formalized ongoing performance planning and measurement system.

As per the comparison of different planning models, while the contribution score is quite subjective, cascading and execution solutions are limiting the usefulness of models.



Strategic Planning Tool	Step 1. Mission, Vision, Values	Step 2. Strategy Formulation	Step 3. Strategy Description	Step 4. Strategy Cascading	Step 5. Strategy Execution
Balanced Scorecard	+	++	+++	+++	+++
OKR		+	+	++	++
Hoshin Kanri	+	++	++	++	+
OGSM		+	+	+	
MBO		+	+	++	++
Three Horizons	+	++	+		
Strategic Change Agenda	+	+++			
SWOT+S		+++	+		
VRIO		+++	+		
7-S	+	+++	+		
PESTEL		+++	+		
Gap Analysis		++	++		
Scenario Planning		+++	++		
Porter's Five Forces		+++	+		
Pareto Analysis		++			
Constraints Analysis		++			
Prioritization Frameworks		++			

**Figure 3.** Comparative table of Strategic Planning Frameworks  
 Source: <https://bscdesigner.com/strategic-frameworks-comparison.htm>

Following this, we can examine the practical models used by thousands of profit-oriented companies. In these cases, it does not necessarily divide the performance dimensions but rather places them in an operational framework with a certain (often quality-focused and not necessarily numerically measured, sustainability-oriented) system of principles or operational basis. Many globally operating companies use so-called Circular or Spiral models. These cyclically continuously enforce the strategic principles with regard to financial and non-financial indicators. The spiral methodology is extremely useful for medium to high-risk projects when risk and costs evaluation is also an important value-add.

If the other target systems are "enclosed" practically and the circularity ensures the continuity of the measurements, which represents one of the basic elements of sustainability, then excellent approaches can be obtained from this aspect in the form of sustainability reports, or even so-called ESG (Environmental-Social-Governance) reports, which focus on the examination



of environmental impacts caused by operating organizations, the handling of social issues within and outside the organization, and the activities and decision-making mechanisms of the top management.

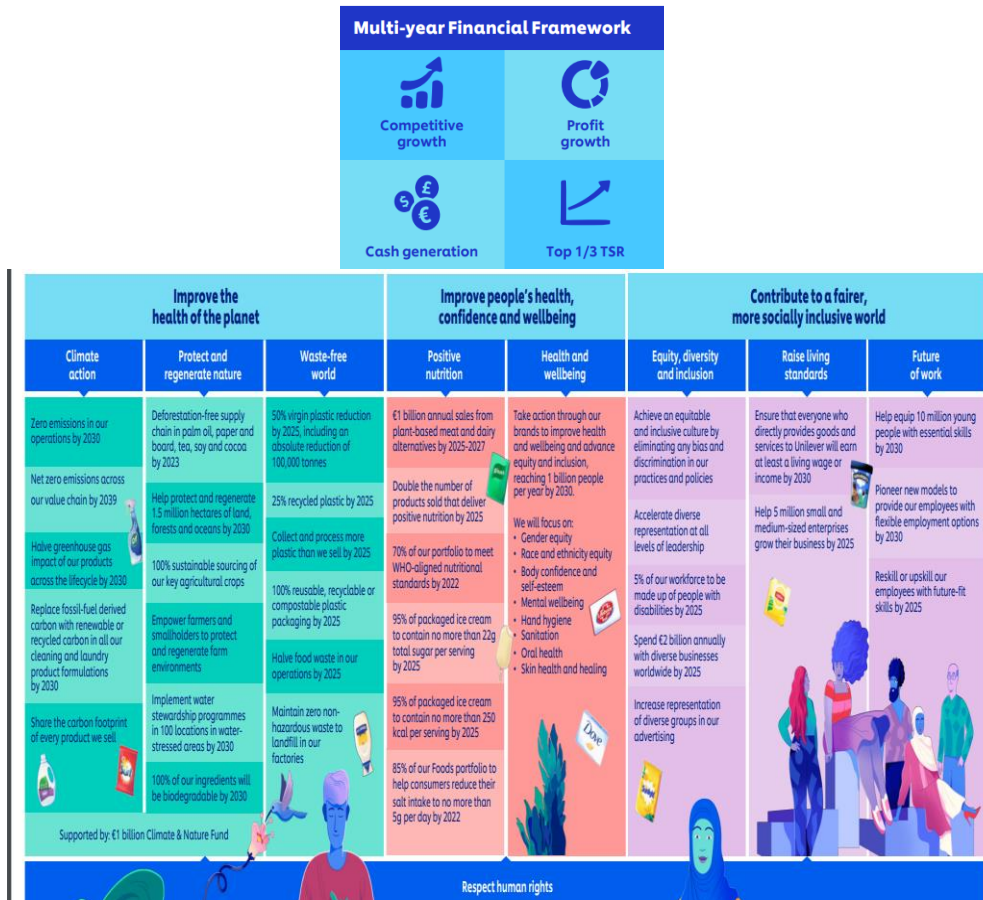
If we want to imagine this in practice, we can see this in the following existing public strategy:



Figure 4. Diageo Group Annual Report 2021

Source: [https://www.annualreports.com/HostedData/AnnualReports/PDF/LSE\\_DGE\\_2021.pdf](https://www.annualreports.com/HostedData/AnnualReports/PDF/LSE_DGE_2021.pdf)





**Figure 5. Unilever Group Strategy 2022**  
 Source: <https://www.unilever.com/our-company/strategy/>

The public sector has also established its own performance evaluation systems, which are based on the philosophy of total quality management (TQM), which also had to be taken into account. "Quality as a fundamental business strategy, products and services created with its application fully satisfy both internal and external customers by meeting their stated and unstated expectations" (Tener and DeToro, 1996).

We can see the collective (or parallel) use of the above approaches in practice: at an administrative institution, a so-called GAP model was developed with three dimensions, in which indicators of performance are located in intersections. For organizational performance, more than 350 indicators, mainly for internal use, providing a detailed picture of the entire organization, were available in the designed model (roughly speaking, we can talk about a 500-person process). For the sake of data transparency, it was necessary to highlight the key indicators relevant to the management

overview. As a result, a system of indicators containing key indicators (hereinafter referred to as KPI) was developed. The KPI supports strategic-level management decisions and process optimization decisions in the organization.

This brings us to the second problem: the creation of the "general" administrative model. These intersections contain quantitative and qualitative data of certain service delivery (sub) processes. These data can form simple or complex (derived) indicators.. Larger organizations expand the professional service dimension more, and the creation of indicator systems leads to a more complex task and a wider range of KPIs. While for simpler organizations, an organizational policy, a task map, or a task-allocation agreement may be sufficient to map out this dimension. The plane of the different perspectives approaches, and expectations remain the same. If we put all these dimensions into a framework that is generally valid and has strategic, sustainability, governance, or even social relevance (notably non-financial data), we have taken into account all the current knowledge.

Problem is also affected by the fact that the increased risk of environmental, social, and governance (ESG)-related litigation, including over-sustainability disclosure (see Table 1), will be another challenge for companies and investors to navigate. The associated topics such as water scarcity and biodiversity loss are likely to dominate stakeholder discussions and moreover decisions, with potentially near-term urgencies. recessionary risks in many markets.

**Table 1** - Summary of presence of sustainability elements-as non-financial measurements- in annual reports of public and private sphere

Peer company name	ESG relevancy included in the last Annual Report (integrated report) or detailed separately	ESG disclosed on company's website	Year-end	Link to document
AB Inbev	yes	yes	Dec	<a href="https://www.ab-inbev.com/assets/pressreleases/2023/FY%20Financial%20Report%202022.pdf">https://www.ab-inbev.com/assets/pressreleases/2023/FY%20Financial%20Report%202022.pdf</a>
Brown Forman	yes	yes	April	<a href="https://www.brown-forman.com/sites/default/files/team_resources/2022-07/Brown-Forman%202022%20Integrated%20Report_ADA_1_0.pdf">https://www.brown-forman.com/sites/default/files/team_resources/2022-07/Brown-Forman%202022%20Integrated%20Report_ADA_1_0.pdf</a>
Carlsberg	yes	yes	Dec	<a href="https://www.carlsberggroup.com/reports-downloads/">https://www.carlsberggroup.com/reports-downloads/</a>
Coca-Cola	yes	yes	Dec	<a href="https://investor.cokeconsolidated.com/financial-information/annual-reports">https://investor.cokeconsolidated.com/financial-information/annual-reports</a>
Colgate Palmolive	yes	yes	Dec	<a href="https://investor.colgatepalmolive.com/financial-information/annual-reports/">https://investor.colgatepalmolive.com/financial-information/annual-reports/</a>
Groupe Danone	yes	yes	Dec	<a href="https://www.annualreports.com/Company/danone">https://www.annualreports.com/Company/danone</a>
Heineken	yes	yes	Dec	<a href="https://www.theheinekencompany.com/investors/results-reports-webcasts-and-presentations">https://www.theheinekencompany.com/investors/results-reports-webcasts-and-presentations</a>
Kimberly - Clark	yes	yes	Dec	<a href="https://www.kimberly-clark.com/en-us/investors/annual-reports">https://www.kimberly-clark.com/en-us/investors/annual-reports</a>
Mondalez International	yes	yes	Dec	<a href="https://www.mondelezinternational.com/Investors/Financials/Annual-Reports">https://www.mondelezinternational.com/Investors/Financials/Annual-Reports</a>
Nestle	yes	yes	Dec	<a href="https://www.nestle.com/investors/annual-report">https://www.nestle.com/investors/annual-report</a>

Private sphere

PepsiCo	yes	yes	Dec	<a href="https://pepsico.com/investors/financial-information/annual-reports-proxy-information">https://pepsico.com/investors/financial-information/annual-reports-proxy-information</a>
Pernod Ricard	yes	yes	Jun	<a href="https://www.pernod-ricard.com/en/media/annual-report-20212022">https://www.pernod-ricard.com/en/media/annual-report-20212022</a>
Procter&Gamble	yes	yes	Jun	<a href="https://us.pg.com/annualreport2022/">https://us.pg.com/annualreport2022/</a> <a href="https://us.pg.com/annualreport2022/">https://us.pg.com/annualreport2022/</a>
Reckitt Benckiser	yes	yes	Dec	-
L'Oreal	yes	yes	Dec	<a href="https://www.loreal-finance.com/eng/annual-results">https://www.loreal-finance.com/eng/annual-results</a>
Unilever	yes	yes	Dec	<a href="https://www.unilever.com/investors/annual-report-and-accounts/">https://www.unilever.com/investors/annual-report-and-accounts/</a> -
Shell	yes	yes	Dec	<a href="https://www.shell.com/media/news-and-media-releases/2022/shell-publishes-annual-report-and-accounts.html">https://www.shell.com/media/news-and-media-releases/2022/shell-publishes-annual-report-and-accounts.html</a>
AstraZeneca	yes	yes	Dec	<a href="https://www.astrazeneca.com/investor-relations/annual-reports.html">https://www.astrazeneca.com/investor-relations/annual-reports.html</a> -
HSBC	yes	yes	Dec	<a href="https://www.hsbc.com/investors/results-and-announcements/annual-report">https://www.hsbc.com/investors/results-and-announcements/annual-report</a>
GlaxoSmithKline	yes	yes	Dec	<a href="https://www.gsk.com/en-gb/investors/financial-reports/annual-report-2021/">https://www.gsk.com/en-gb/investors/financial-reports/annual-report-2021/</a> -
British American Tobacco	yes	yes	Dec	<a href="https://www.bat.com/annualreport">https://www.bat.com/annualreport</a>
BP	yes	yes	Dec	<a href="https://www.bp.com/en/global/corporate/investors/annual-report.html">https://www.bp.com/en/global/corporate/investors/annual-report.html</a>

					-
	Vodafone	yes	yes	Mar	<a href="https://www.google.com/aclk?sa=l&amp;ai=DChcSEwjf9bvHsvb7AhUZ4O0KHQ42BUcYABAAGgJkZw&amp;sig=AOD64_0aeErXaeZgJsRcAP_FWk0st7X0Ng&amp;q&amp;adurl&amp;ved=2ahUKEwjFmbLHsvb7AhW6_rsIHQedDKUQ0Qx6BAGIEAE">https://www.google.com/aclk?sa=l&amp;ai=DChcSEwjf9bvHsvb7AhUZ4O0KHQ42BUcYABAAGgJkZw&amp;sig=AOD64_0aeErXaeZgJsRcAP_FWk0st7X0Ng&amp;q&amp;adurl&amp;ved=2ahUKEwjFmbLHsvb7AhW6_rsIHQedDKUQ0Qx6BAGIEAE</a>
	Rio Tinto	yes	yes	Dec	<a href="https://www.riotinto.com/invest/reports/annual-report">https://www.riotinto.com/invest/reports/annual-report</a>
	Diageo	yes	yes	June	<a href="https://media.diageo.com/diageo-corporate-media/media/5qrm5zru/diageo-annual-report-2022.pdf">https://media.diageo.com/diageo-corporate-media/media/5qrm5zru/diageo-annual-report-2022.pdf</a>
	State Audit Office of Hungary	no	yes	Dec	<a href="https://www.asz.hu/files/ASZ_orszaggyulesi_beszamolo_2022.pdf">https://www.asz.hu/files/ASZ_orszaggyulesi_beszamolo_2022.pdf</a>
	IRS . Internal Revenue Service	no	no	Dec	<a href="https://www.irs.gov/a-closer-look">https://www.irs.gov/a-closer-look</a>
	Office of the Comptroller and Auditor General - Ireland	yes	no	Dec	<a href="https://www.audit.gov.ie/en/find-report/publications/2022/appropriation-accounts-2021.pdf">https://www.audit.gov.ie/en/find-report/publications/2022/appropriation-accounts-2021.pdf</a>
	Supreme Audit Office of Czech Republic	no	Yes	Dec	<a href="https://www.nku.cz/assets/publications-documents/annual-report/annual-report-2021.pdf">https://www.nku.cz/assets/publications-documents/annual-report/annual-report-2021.pdf</a>
	Ministry of Justice Republic of Estonia	no	no	Dec	<a href="https://www.just.ee/en/ministry-news-and-contacts/about-ministry-and-minister/introduction-and-structure">https://www.just.ee/en/ministry-news-and-contacts/about-ministry-and-minister/introduction-and-structure</a>
	Danmark - Folketinget Rigsrevisionen	no	no	Dec	<a href="https://uk.rigsrevisionen.dk/Media/637897572625917453/Annual-report-2021.pdf">https://uk.rigsrevisionen.dk/Media/637897572625917453/Annual-report-2021.pdf</a>
Public sector	State Audit Office of Republic of Croatia		No	Dec	<a href="https://www.revizija.hr/about-us/plans-and-financial-statements/annual-financial-statements/704">https://www.revizija.hr/about-us/plans-and-financial-statements/annual-financial-statements/704</a>

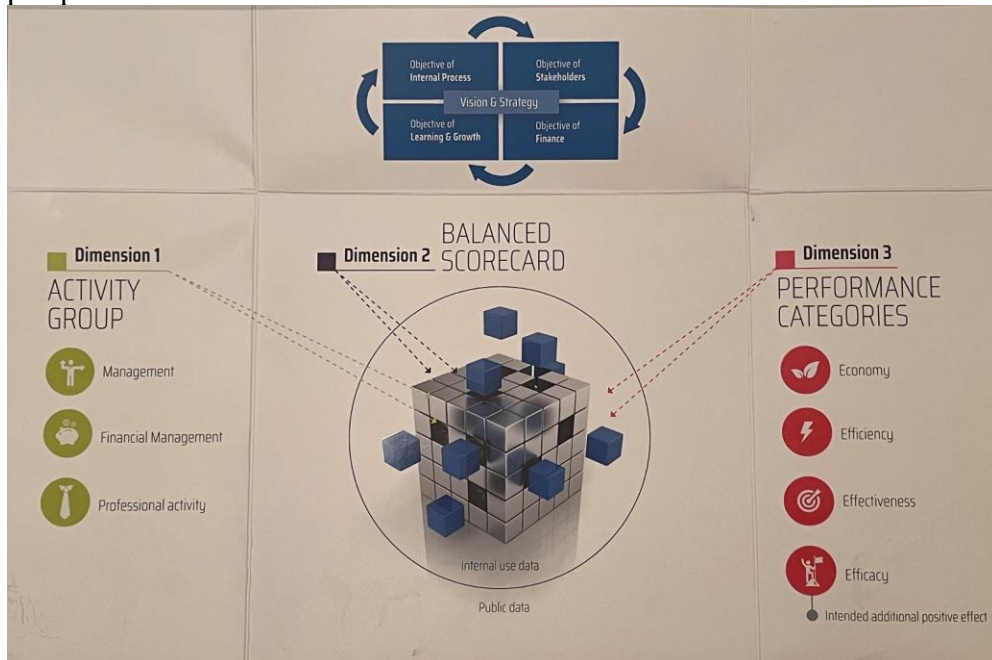


## Problem formulation and solutions

Organizational performance is the effectiveness, efficiency, quality, and impact of all processes and tasks carried out using human and other resources in order to achieve the mission of the organization at any given time, which is influenced by external and internal needs and expectations and which can be captured with quantitative and qualitative characteristics. The subject-specific concept of performance measurement - the so-called GAP model - suggests the systematization of indicators to characterize the main activity groups that ensure the functioning of the organization in three dimensions:

- by organizational activity group (1st dimension: control, management, professional task fulfillment);
- according to the views of the BSC (2nd dimension);
- broken down into the classic performance categories (3rd dimension: economy, effectiveness, efficiency, impact).

In this way, data (where relevant) can be collected on the inputs and economy, efficiency, outputs and effectiveness of all processes and task fulfillment contributing to the realization of the mission (as the parent principle of the strategy), as well as on its impact - and the perspective of the data can also be determined. According to the defined dimensions, the following "framework" can be used to graphically represent the performance indicators of the process elements of the organization from different perspectives:



**Figure 6.** GAP Model

Source: Annual Report of State Audit Office of Hungary 2018

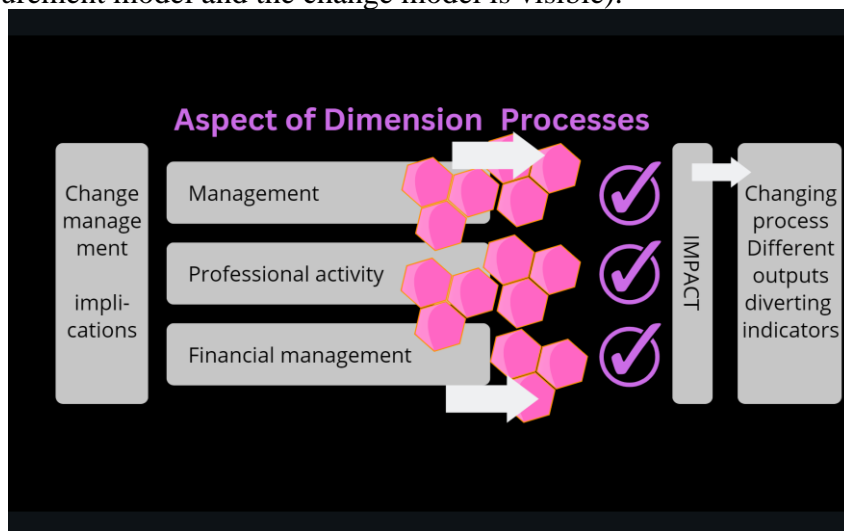
The GAP model needs to be connected to some kind of change management model - in order to prepare decisions based on the indicators-which can be implemented programmatically as follows:

1) when assessing the difference between the planned and actual values, and the managerial impulses and decisions arising from it (risks in the case of non-fulfillment or partial fulfillment, and opportunities in the case of over-fulfillment),

2) also during the annual review of the implemented indicators (is the measurement right, is there a need for different indicators, do we need to modify the expectations or the process),

3) finally, when dealing with extraordinary events (including crisis management and managerial innovative decisions).

Therefore, the change process can be connected to the measurements in two points: when recognizing the need for change and in the feedback. The GAP model has several phases in the measurements: regularly from the leaders, at intervals in the measurement of the organization's processes; while the managerial impulses initiate the change management model, compulsory recording at least twice a year, and immediately when the opportunities/risks arise; in addition, in the automated system at the indicated connection points, as shown below. (the representation of the connection between the measurement model and the change model is visible).



**Figure 7.** Implication of change management in the Organizational Activity Dimension  
Source: Design based on (Domokos L., Weltherné Szolnoki D. (2020). A számvéveszéki teljesítmény mérésének modellje, a teljesítménymenedzsment fő területei. Pénzügyi Szemle Különszám 2020, Budapest)



Localizing the drivers of change does not necessarily provide an immediate solution. The indicator system shows trends, provides impulses, and shows "symptoms", but when deciding to make a change, one must look "behind" the symptoms, capturing the characteristics of the desired state and tracing the problem back to its root by means of analysis, evaluation and impact assessment. This phase cannot be "skipped" in practice: the identification of indications can be automated, and basic inferences and derivations can be carried out, but the deduction of details is a manual task. This justifies the need for analytical skills and a holistic (system) perspective in the responsible management of the indicator system for the changing variables. It is also obvious that executive awareness is an essential requirement for the operation of the system of changes in measurements. Once the indicators of change are detected, it is necessary to also examine their relevance. Not all changing values necessarily indicate a need for change. On the other hand, there may be a need for change which is not indicated by the indicators of internal (and external) environmental changes. Recognizing, analyzing, and assessing the correlations and mutual impacts of the changing indicators contributes to determining the cause of the identified change.

It is possible that the indicator will not be in the area where the actual change-driving factor can be found, but rather in the area where the deeper connections of the motivation to change lie. The most important, yet boundary-less types of changes affect the organizational structure, operation, management, goals, strategy, task-fulfillment, and organizational culture.

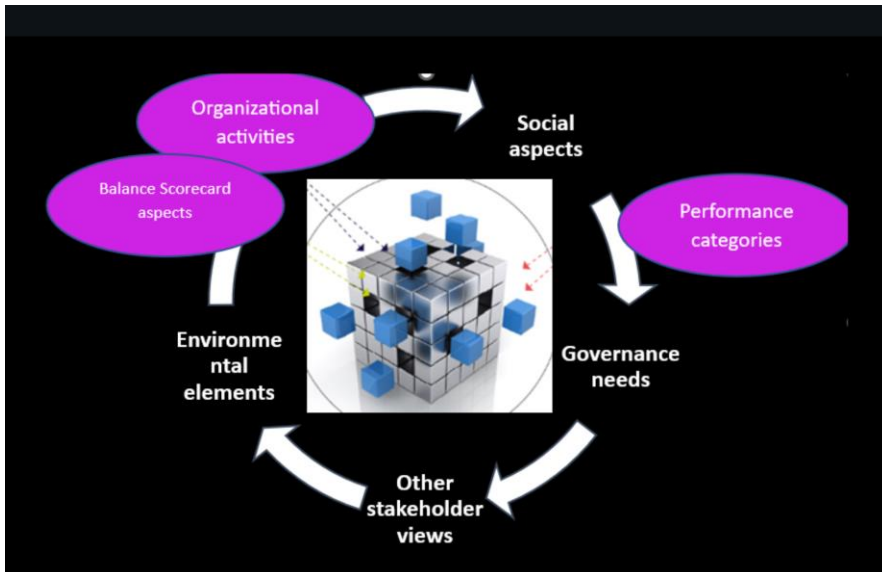
The characteristic of the so-called second-level organizational changes is that they affect multiple task fulfillment areas, functions, organizational units, or processes. With the application of the project management toolbox, the management of the change can be flexibly created, crossing organizational structure, in addition to the balance of the organizational tasks and responsibilities.

The preparation of the decision regarding the change and, following the decision-making, the realization can be broken down into stages of planning, execution, testing, iteration, implementation, and feedback. The successful execution is supported in every stage by the internal task fulfillment processes, such as risk management, time management, cost management, resource provision, possible procurements, quality control, and communication pervading the entire realization process.

Keeping up with the advances of digitization, a system-wide database, form creation, and management can be achieved in a performance measurement metric and indicator system, allowing for quicker and more accurate retrieval, reporting, and processing of information. This enables real-time recording, review, and immediate loading of data into an analytics system for analysis and evaluation, as well as uploading of previous data for multi-

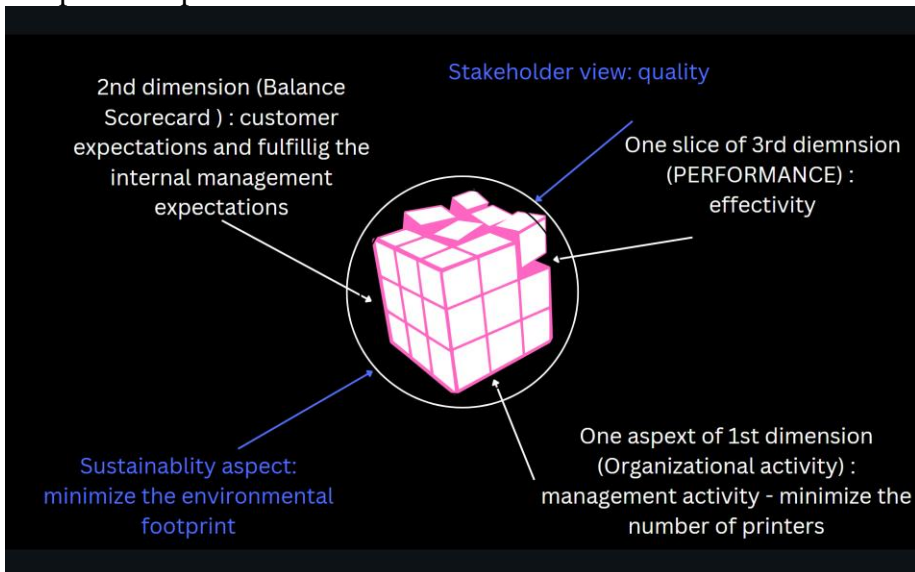
dimensional reporting of time series and trends to meet the demands of leadership reporting systems. The goal is for the indicators to provide quick and reliable feedback on internal processes and elements, and to be able to achieve the purpose of providing information to support the organization's well-functioning processes while alerting in time to any necessary process optimization steps. Through evaluations (plan-fact comparison, time series/trend display, analysis, benchmarking), there is the possibility of a multi-faceted, multi-faceted, and fast analysis of the organization's performance.

In a functioning system, data is provided to each of the organizational processes in the query system every six months with regards to the approx. 350 indicators, both for the planning of the processes as well as for their measurement. This also provides data to several reporting systems. After the data transfers have been completed, the analyses, queries, time series and trend analyses, and examinations that are created give signals to the change management system, which, based on the individual decisions of the leaders, starts the decision-making process. The hypothesis would suggest that, for further examination, this system should be optimized by a sustainability-oriented system of criteria dictated by strategic guidelines. In this way, the measurements would always keep the principle criteria and measurement indicators (drivers) in mind and create a fourth temporal dimension that would guarantee the sustainability of the objectives according to the strategy system planned and validated for a period of 3-5 years. What would this look like in practice? The model would be modified as follows:



**Figure 8.** Circularized model of measurement  
Practical problem-solving aspect of the model

To understand this in practice, take an example of a public administration organization and one that can easily be modeled in the business world: let's assume that one of the requirements of the strategic framework is the quick and effective delivery of services (efficiency - 3rd dimension) to meet customers'/market/administrative tasks requirements as a quality indicator. Among the sustainability targets, paperless should be listed as one of the factors for minimizing the environmental footprint (circular principle criteria). One of its objective systems is to minimize the number of printers (Management, support services - 1st dimension), which satisfies the "customer" needs and at the same time meets the internal leadership expectations (Balance Scorecard perspective - 2nd dimension). Let us assume that, as a KPI, the organization needs to keep two printers per floor at the organizational premises in order to enable all employees to do their job while the different departments must meet the daily quantity and quality requirements of their tasks (cube cut between dimensions showing quantitative and qualitative KPI's of the process). It goes without saying that the financial aspects of the acquisition, maintenance, and paper use of the printers all point to the fact (1st dimension economic process, 2nd dimension financial aspect, 3rd dimension cost-effect that the target numbers are lower for the printers operated.



**Figure 9.** Circularized model in operation

The fulfillment or non-fulfillment of all these set goals is summarized twice a year in the measurement, which KPI attaches to the change management system, whether it is necessary to notify the leaders of the non-fulfillment. Therefore, the two printers per floor should be reviewed. Both in the case of fulfillment and non-fulfillment, it is also necessary to comply with

the principle of circulation, which measures environmental impact in terms of printing ink, power consumption, and, therefore, paper consumption, which, if exceeded by the current measurements (and this is also to be understood in time), will give the change management system an impulse to change. The summary of all this represents automatic decision-making for a potential change in communication with management. Sustainability not only involves the realization of the target values but also their maintenance over time. This fourth dimension, therefore, localizes the needs and expectations over time.

## **Conclusion**

In the discussion, it is highlighted that the necessary part of the conscious strategic management of organizations operating in the public sector in Hungary is to carry out measurements, extend them towards sustainability, put together a managerial organizational measurement system, and manage conscious changes. In this regard, the task of general modeling is difficult but not impossible. Although the methodology of strategy formation and task following on such foundations often requires development in terms of its validity, it is necessary to see that it is necessary to provide and maintain the conditions of measurement and goal attainment. In the process of strategy formation and implementation, numerous risks threaten the successful goal attainment, measurement of results, and sustainability, yet perhaps the most important is the planning of the concept of measurements, analysis of the deviation of target values and their treatment as a change impulse, since it is a fact that the effective use of (public) funds requires accurate, objective and well-founded measurement and analysis. The fulfillment of this requirement is only possible with a complex, multi-dimensional model which also takes into account the existing practical aspects (quality-centered task fulfilment) and operational area characteristics (public or business sector), on top of its unitary environment condition system "thinking" (legal compliance, regulatory environment, operational needs according to standards).

A well-managed, high-performing state, just like a globally operating organization in the competitive arena, cannot avoid measuring the performance and effectiveness of (public) task execution; continuous monitoring is necessary, though not sufficient. A system of evaluations and checks and the mapping of effects are essential. Without these, decision-makers do not receive feedback on which areas to intervene in. In addition, social expectations and the requirements of the owners (or the state) for non-financial indicators, performance, and sustainability in the environmental, social, and governance areas are increasingly acute demands, which are treated as decision-making and intervention indications in general modeling just as much as the financial performance. The practical results of the study can serve as methodical guidance for the professional, sectoral controllers of the public

sector, the decision-makers, and those involved in strategy formulation and the tracking of strategic objectives.

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## Moral Hazard Problem in Public Policymakers

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### Abstract

The moral hazard problem in government organizations is very recurrent due to weak compensation system (i.e., take-home salary) and non-existence of any additional premium (e.g., ownership of stocks) for public policy makers compared to their counterparts in private firms, which weakens the proprietorship of their organization. Since there is a principal-agent relationship between citizens and public policymakers, a loss in public goods and services to citizens signals a meaningful level of moral hazard problem in public policymakers as agents. The menace of moral hazard problem can be lessened through a proper Reward Punishment Approach (RPA). Under existing setup, a weak compensation system with severe punishment mechanics indicates flaws in PRA which needs improvement through reforms in its existing structure. This paper focuses on bringing the compensation system (i.e., take-home salary in terms of cash and a provision of additional premium) at par with market-based package along with various perquisites. The study expects a bare minimum financial implication which may be affordable for the government and decrease moral hazard problem, at least to some extent, leading to a better delivery of public goods and services for the citizens of the country.

**Keywords:** Moral Hazard Problem, Principal, Agent, Public Policy Makers, Premium



## Introduction

Moral hazard problem appears more frequently in public policymakers because they are usually not the stakeholders. Furthermore, they do not enjoy any additional premium that is in vogue in terms of ownership of stocks in most private firms. The principle of agency theory categorizes these public policymakers as agents of the citizens of a country who are no doubt their principals. The moral hazard problem is a common feature in economics and finance, where the conflict of interests of principal and agent is a reflection of this phenomenon. An agent is a person who exercises authorities on behalf of a single individual or a group of individuals who is/are called principal(s). The agents may be managers of business firms, bureaucrats, or may be political leaders of the country and others. The principals may be the owners or stockholders of the firm or may be the people or citizens of the country. It is the prime objective of the agent that he/she should take a decision to safeguard the interest of his principal at any cost. Nevertheless, this is not the case in real life, as the conflict of interests of agent and principal is a routine feature of many of the business firms and elsewhere. Since agents are ethically and legally bound to work to uphold the interest of their principals, any deviation in their behaviour against set norms raises the issue of moral hazard, which is undesirable for the principals.

In existing literature, the term 'moral hazard' is being used in all fields. Moral is concerned with behaviour that could be good or bad. On the other hand, hazard stands for risk<sup>1</sup> and identifies a situation that involves an exposure to threat or danger. Hence, the moral hazard may be an outcome of bad behaviour leading to an exposure to threat. As per standard norms, good behaviour is symbolic for desirability, while bad behaviour usually leads to undesirability. This is because societies generally prefer to avoid taking risky decisions in their day-to-day affairs. Moral hazard problem appears when desirability concludes to undesirability because of bad behaviour of an individual/a group of individuals that hurts the interest of another individual/a group of individuals because of an exposure of threat to his/their capital/capitals or life/lives. Hence, moral hazard problem is associated with risky decision that is taken by an individual or a group of individuals at the cost of interest of an individual or a group of individuals. These two sets of individuals must have some relationship showing certain interest e.g., financial, political, legal, social, cultural, traditional, environmental, technological etc. In literature, this relationship is named as the "Principal/Agent Relationship", and the proponent theory to it is called the "Agency Theory". The theory spells out that principal/agent problem exists everywhere in private firms, universities, government organizations, etc.

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<sup>1</sup>Concise Oxford English Dictionary.



(Jenson & Meckling, 1976). Gallagher and Andrew (2003) refer to the principal/agent problem as the 'agency problem' and suggest that this problem can be lessened by linking compensation of the manager with performance of the company and its stock price.

The problem of moral hazard is more prevalent in public policymakers as compared to executives in private firms. This is because they are usually not the primary stakeholder and do not enjoy any additional premium like their private sector counterparts. These public policymakers are categorized as agents of the citizens of a country by the agency theory which makes the citizens their principals. At times, these agents take riskier decisions on behalf of their principals in order to generate an additional premium for themselves. Even though these decisions are usually self-centered, they are garbed under the umbrellas of "National Interest" and "Established Theory". Consequently, the Public Exchequer suffers significant loss that is ultimately transferred to the citizens through a decline in deliveries of public goods and services. Since there is a principal-agent relationship between the citizens and public policy makers respectively, a loss in public goods and services to citizens signals meaningful level of moral hazard problem in public policy makers as agents.

This paper examines moral hazard problem in public policy makers through descriptive approach and analyzes its impacts on deliveries of public goods and services to the citizens.

## Literature Review

The term "moral hazard" was first used in 1865 in the fire insurance literature, which linked the 'character component' of moral hazard with the risk associated with the insurance contract itself. It was noted that the heavy insurance also increased the moral hazard associated with the motive for crime manifestation from both bad character (i.e., immoral people who will deliberately fraud) and wrong incentives (i.e., insurance contract design which could tempt good people to act carelessly)<sup>2</sup>. The insurance writers referred to it as a moral or ethical problem or moral hazard was every deviation from correct human behavior that could pose a problem for an insurer (Pauly, 1968). Since the work of Kenneth Arrow (1963), the idiom became widely used in economics and at the same time moved into the policy debate<sup>3</sup>. More recently, Pierret (2019) quotes that moral hazard do not originate in the economic literature but in business insurance. He further discusses that before entering the economic literature, moral hazard was a business insurance concept where personal characteristics and morality had a role to play in the manifestation of

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<sup>2</sup> Pierret, L. (2019). The political use of the term "moral hazard": evidence from policymakers of the Eurozone by European Political and Governance Studies. College of Europe.

<sup>3</sup> Arrow, K. J. (1963). "Uncertainty and the welfare economics of medical care", *American Economic Review*, vol. 53, no. 5, pp. 941-973.

the phenomenon. In contrast, the economics of moral hazard are solely focused on incentives, which is free of value judgments and character.

Literature traces back the dynamic modeling of the moral hazard envisioned by Becker and Stigler (1974), while describing economic insights into the problems of maintaining long-term trust of agents who practices entrusted power in a relationship or organization. The work of Myerson (2008 & 2015) in this context is also commendable. The model analyzes how government officials could be efficiently motivated to enforce laws as problems of trust are essential to every organization. The agency theory focuses on a motivational approach to offer better rewards for good performance of agents in order to mitigate the opportunities for profitable abuse of power. It is imperative that the required rewards for good performance may be more than what agents would demand to accept the position. Thus, agents who hold such responsible positions must be promised surplus rewards called moral-hazard rents. However, in dynamic modeling, the costs of moral hazard rents can be lessened by deferring substantial rewards until late in agents' careers. This is because the expectation of a late-career reward for good long-term accomplishment can motivate good behavior throughout an agent's career<sup>4</sup>.

The seminal work of Jensen and Meckling (1976) on agency theory is a milestone opening a floodgate of research on this subject in later stage, thereby leading to a marathon of debate on the roles of public policymakers. For instance, while discussing public debt management of a group of Asian Pacific Developing Countries (APDC) under debt trap, Alam (2007) documents that policymakers of these countries usually take decisions on short-term basis while focusing on their own self-interest. Their prime concern is to maintain their efficiency through an inefficient means so that the crisis could be delayed for the time being. In this context, the tax-tilting approach under higher debt servicing obligation, debt burden shifting through diversion of resources from development to debt servicing sectors, grabbing of states' legitimate share, or inclination towards the extension of loans instead of issuing grants to the states are few examples. In accordance with conventional wisdom, these measures can only reduce the visibility of the gravity of the prevailing crisis for the time being. Nevertheless, as an ultimate effect in the long run, it creates a unique trap of 'debt burden shifting' that does not follow the path of established norms. Conclusively, Alam (2007) raises a question of concern "Whether such debt burden shifting could be viewed as an administrative tool or simply as a reflection of moral hazard behavior? It is worth mentioning that literature on this subject reveals significant degree of

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<sup>4</sup>Myerson, R. B. (2008-2015). Moral hazard in high office and the dynamics of aristocracy. Economics Department, University of Chicago, 1126 East 59th Street, Chicago, IL 60637, USA.

moral hazard problem in public policymakers as their policies are generally focused on their own interest or more specifically too much self-centeredness.

Similarly, the literature with reference to the failure of Lehman Brothers during the 2008 financial crisis highlights that it is troublesome because the moral hazard imposed on the system is actually astounding in scale and scope. Across the world, the banks, and insurers whose errors of judgment generated the bubbles have been bailed out without reluctance at marginal cost to them but at substantial costs to taxpayers. According to Allen et al. (2015), the introduction of government guarantees does not always stimulate banks to take excessive risk with the outcome that public intervention increases instead of reducing the instability in the financial sector. This has important consequences for policymakers since it recommends that restricting the size and the scope of the intervention in the effort to regulate the moral hazard problem on the side of banks could be damaging.

Barro (1998), when debating the subject of bailouts, opines that bailout may raise the probability of sovereign default and may increase 'moral hazard' by rewarding and encouraging bad policies by governments and excessive risk-taking by banks. According to him, there may be a meaningful possibility that as a sovereign debtor, the government would use the money borrowed from creditors imprudently. Subsequently, the source of moral hazard in the model of Ghosal and Miller (2002) reveals that the sovereign debtor has non-contractible payoffs and the incentives of the sovereign debtor are not aligned with those of the creditors. They further assume that the value of these debtor payoffs depends on whether 'effort' is good or bad. However, good effort implies that default only occurs with the bad exogenous shock while bad effort implies that default is inevitable. For example, good effort could relate to a situation where money is borrowed and used to build up R&D in the export sector to help the country internationally. Bad effort might relate to shifting borrowed money to rich people who put it in tax havens overseas, which exposes the country to currency risk and the budget to a loss of tax revenue.

In another study, Hernández-Catá (n.d.) contends that diversion of domestic or external funds originally appropriated for government investment into consumption by public policymakers is rampant which is done in connivance with their private sector accomplices and international donor agencies. In some cases, they do not reflect such changes in diversion of funds in official government consumption statistics as they succeed in hiding these changes. As a result, official estimates of investment are biased upward. Tsyrennikov (2007) documents that banking and the financial sectors in emerging economies are largely unfree. He quotes Argentina as a special case where the government retains full ownership in four large banks, including the country's largest bank, Banco de la Nación. This implies that a significant part of funds is directed into politically motivated projects, which indicates

lender's inability to monitor the use of funds by Argentina transmitting signals for the moral hazard problem.

The empirical study of Pierret (2019) using discourse analysis techniques provides information on how and why policymakers of the Eurozone use the term "moral hazard". The study argues that contrary to appearances, moral hazard is a politicised concept designed by planned interests and/or prevailing set of ideas that describe different preferences towards risk sharing. He finally concludes that rather than the genuine reason behind different risk sharing preferences, moral hazard seems to be the justification.

Additionally, the role of international lending agencies facilitate and encourage moral hazard problem in public policymakers (Corsetti, Guimaraes & Roubini, 2003). While critically analyzing the official lending, the researchers point out that official lending also causes moral hazard distortions through bailout package extended by the International Monetary Fund(IMF). Generally, the debtor countries have weak incentives to implement good but costly policies, which amplifies the possibility of a crisis. They further point out that international financial crises are caused by the collaboration of bad fundamentals, self-fulfilling runs, and policies by three classes of augmenting agents: international investors, the local government, and IMF. For instance, Rossel, Unger, and Ferwerda (2021) document that in 2012, the Financial Action Task Force (FATF), an intergovernmental organization that sets international standards to fight money laundering, recommended tax crimes as an established offense for money laundering. Astonishingly, in the legislation of EU Member States, the tax crimes were included without a solid definition, leaving each jurisdiction to define or redefine what they thought tax crime was. The dearth of an integrated definition of tax crimes resulted from a lack of consensus among Member States (Thirion & Scherrer, 2017; Turksen & Abukari, 2020). However, the parliament observed that "Agreeing on a definition of tax crimes is an important step in detecting those crimes".<sup>5</sup>

In recent days, lawmakers in one of the most liberal tax havens in the United States are urging to close a key doctrine of financial secrecy by requiring the owners of highly confidential trusts to ascertain themselves. The proposal in Alaska is part of a growing push to stop the flow of undisclosed money into the United States, which has for years taken international wealth through state laws that provide secrecy for the owners of trusts, limited liability companies, and other financial arrangements. New York and Wyoming are also pondering reforms, and, at the federal level, the bipartisan 'Enablers Act' would, for the first time, require trust companies, registered agents, and others to analyze clients and inform questionable transactions. The

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<sup>5</sup> Council of the European Union 2014, p. 11.

stories in Pandora Papers revealed how oligarchs, political elites, and others conceal wealth in the United States and around the world. Grippingly, the lawmakers in New York quite recently presented legislation necessitating limited liability companies to unveil their owners (Cenziper, 2022).

The unlawful transfers of millions of dollars into Swiss bank accounts by corrupt regimes in developing countries or investment funds run by drug moguls or terrorists in the Caribbean remains the major topic of debate in current literature. The part of these endeavors in financial markets is a crucial factor that restricts the capability of individual countries to raise revenue through taxation from residents and foreign-owned capital. In developing countries, the diversion of scarce resources weakens the capability of governments to make crucial investments in social services and economic infrastructure upon which human welfare and sustainable economic development depend. The offshore system has also added to the rising occurrence of financial crises that obliterate businesses in developing countries. The recent financial crises in East Asia, Russia, Turkey, and Argentina illustrate what happens when middle-class businesses evaporate, and massive numbers of people are added to the already substantial portion of the population living in poverty<sup>6</sup>. In many cases, these transferred moneys are the premium earned by the public policy makers of the government of the country.

### **Methodology and Conceptual Framework**

The paper follows descriptive approach by using secondary data of macroeconomic indicators in the case of “Tax Culture and Deficit Financing” for a group of developed, newly industrialized, and developing countries from 2014 to 2018 and 2015 to 2019. The data have been taken from the website of the Asian Development Bank on Key Indicators for Asia and the Pacific 2021. The number of countries vary in each set of analysis depending on availability of data. Also, the remaining two topics, “Resource Sharing and Subsidies”, are solely covered through discussion (in narrative format) with support of literature due to data constraint. The study assumes that macroeconomic indicators are the appropriate yardsticks to gauge the performance of any country. Therefore, a negative trend in macroeconomic indicators signals moral hazard problem in public policymakers. The public policymakers are the politicians and bureaucrats who are engaged in public policy making process of the country.

The conceptual framework is based on the assumption that moral hazard problem in public policymakers exists due to low provision of monthly

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<sup>6</sup>Mark Schapiro (Center for Investigative Reporting, New York) and Frank Schröder (Friedrich-Ebert-Stiftung, New York Office (2003)).

compensation (i.e., monthly take-home cash salary) compared to the salary package available in the market. Furthermore, there is no additional premium in terms of ownership of stocks in the government system which exists in most private firms. Under such circumstances, there may be a likelihood of manifestation of moral hazard problem in public policymakers (being agents) through generation of additional premium for themselves by making self-centered policy. This would result to colossal losses to the Public Exchequer leading to decrease in deliveries of public goods and services for the citizens (being principals) of the country.

The analysis in upcoming sections is based on the above assumption with the support of existing literature on the subject as follows.

### **Analysis**

The literature discusses moral hazard problem in public policymakers in a very interesting manner. For a layperson, it may be not an easy task to comprehend it easily as agents involved under this setting are smart enough. In this perspective, while discussing the roles of International Monetary Fund (IMF), Lane and Phillips (2001) ascertain that IMF financing may create moral hazard. However, it is difficult to find clear evidence of such an effect. Some smart moves of public policymakers may be observed in foregoing discussions. Tanzi and Blejer (1988) document that, in the short run, by increasing subsidies or public employment without raising domestic revenues, the government obtains immediate political benefits by spending the proceeds of borrowing while the debt repayment is in the future, which creates problems for the next government. This public choice reason has certainly played a significant role in the growth of public debt. In this context, Lucas and Stokey (1983) and Person and Svensson (1989) put forward their arguments on the same line that a government relies more on debt financing since it is used as a tool to influence or constrain the decisions of future governments. Accordingly, the ultimate impact of such policy implications creates distortion as the burden of current debt under this setup is transferred to future taxpayers who do not enjoy its benefit. For instance, Ithori (1988) highlights that debt finance benefits the existing older generation and hurts the future generation. Similarly, Rosen (1995) documents that the burden of debt is a tax incidence problem in an intergenerational setting. Dornbusch et al. (2002) state that there is no fixed economic principle that describes what is fair and not fair in allocating burdens among generations. All stakeholders are unanimous and have strong views on how burdens should be shared across generations. However, they conclude at one point that policies of government that create distortions are actually the reflection of bad behaviour on the part of public policymakers. Hence, treating it as an emblematic moral hazard problem may seem quite plausible. In forthcoming sub-sections, the roles of public



policymakers in signaling moral hazard problem in their self-centered policies and its impacts are discussed with the support of existing literature and available data on macroeconomic indicators wherever it is required.

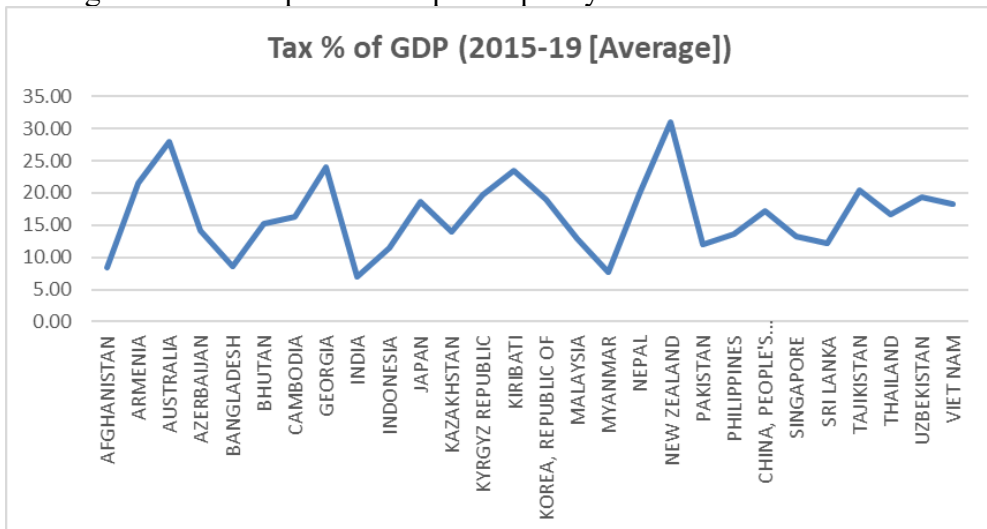
## **Tax Culture**

As mentioned earlier, supply-side economy refers to higher tax as a strain to the society because it reduces willingness to work and affects productivity negatively. Notwithstanding, the tax culture is stronger in developed nations than in developing nations. Therefore, the supply-side approach in such a situation does not seem more plausible. In real world, the level of productivity always remains at a higher level in developed countries compared to developing countries where potential taxable capacity is likely to be higher (Congdon, 1987). The reasons may be the better tax culture, efficient tax machineries, improved infrastructures, more transparency in tax laws/policies, and a meaningful motivational approach mechanics. In developing countries, poor tax culture, inefficient tax machineries, weak infrastructures, and less transparent tax laws/policies and irrational motivational approach mechanics are common features. Hence, encroachment of tax domain among various tiers of the government, tax evasion, tax avoidance, and overlapping/duplication of taxes are common. Their decisions reflect their bad behaviour where demand and supply-side approaches are used as a tool to achieve their own objectives. This is done without realizing the losses to be suffered by the citizens, thus gesticulating moral hazard problem in public policymakers.

It is conventional wisdom that a low tax to GDP ratio is symbolic for tax-avoidance, tax-evasion, inefficiency, and corruption in tax machineries. Policymakers under this setup are more inclined towards dependency on tax-rate increase instead of broadening the tax base. The literature does not support too much reliance on tax rate increase as the canon of taxation states that taxation should depend on the capacity of the taxpayer to pay it. In addition, the tax machineries are more inclined towards encroachment of tax jurisdiction in other tiers of the government instead of increasing their own tax collection capacity through reforms. For instance, there is ample evidence that in several developing countries, the public policymakers at federal government attempt to grab sub-national and local governments' tax jurisdiction, while sub-national/state government try to capture local governments' tax mandate. The encroachment of tax jurisdiction creates dispute among national, sub-national, and local governments specifying duplication/overlapping in taxation system. Any duplication or overlapping in taxation usually create additional burden of tax. Therefore, the taxpayers connive with agencies to evade tax payment. As a result, it creates an avenue to generate some tax relief for the taxpayers as well as some premium for the

tax collectors. As a result, the Public Exchequer suffers a colossal loss of revenues which reduces the quantity and quality of deliveries of public goods and services for the citizens of the country. This scenario shows the advantage of an additional premium for agents (Public Policy Makers/Tax Collecting Machineries/Tax Collectors) and loss of deliveries of public goods and services for their principals who are the citizens of the country. The agency theory specifies it as ‘moral hazard problem’ in public policymakers as agents of their citizens.

Figure 1 (see data at Annexure-I) reveals statistics of a group of 32 Asian Pacific Countries (APC), which shows a comparative trend in tax collection as a percentage of GDP within five years from 2015 to 2019. The tax to GDP ratio in the case of Armenia, Australia, Georgia, Japan, Kirgiz, Kiribati, Korea, Nepal, New Zealand, China, Tajikistan, Thailand, and Uzbekistan is above 15%. On the other hand, it is less than 15% or in some cases less than 9% in other countries. In this context, conventional wisdom is that countries having a threshold of 15% or above of tax to GDP ratio may run its affairs more smoothly under *ceteris paribus*, while countries having tax to GDP ratio less than 15% may need to compromise its economic goals which could lead to financial crisis. Furthermore, the trend in macroeconomic data of any country is self-explanatory as it reflects the performance of the country in accordance with globally accepted proposition. The performance of the country may be tilted towards positive or negative direction, subject to direction of the relevant policies, which are made by the public policymakers. A persistent weak or negative trend in tax to GDP ratio usually signals problems in policy making, its implication, and implementation. Hence, sensing moral hazard problem in public policymakers is inevitable.



**Figure 1.** Tax as % of GDP



## **Deficit Financing**

The need for deficit financing (i.e., debt finance) arises when government expenditure exceeds the revenue (i.e., budget deficit). An increase in budget deficit takes place either through an increase in expenditures under no change in tax rate or a reduction in tax rates when expenditures remain unchanged. It is a well-set rule in public finance that in conditions of full employment, a budget deficit brought about by a reduction in the tax rate in the absence of any change in government spending can be financed either by issuing bonds or by printing money (Alam, 2007). The ambition of higher economic growth persuades government to embark on any of the aforementioned two options or both as an instrument for deficit financing. The literature on public finance highlights that decision between tax and debt finance is also a moral issue (Will, 1985a). Conventionally, the deficits would crowd out private investment and net exports, thus increasing the government debt with an ultimate default as a serious preoccupation (Hernández-Catá, n.d.). In most developing countries, the politically motivated government follows debt financing by taking advantage of demand or supply-side approaches where a deficit financing increases aggregate demand or taxation induces a distortionary effect in the economy respectively. The demand side economists state that an increase in government expenditure increases aggregate demand, which reduces unemployment rates and boosts the economy. The economists of supply side approach believe that higher tax is a strain to the society. This reduces the willingness to work and affects productivity negatively.

In real world, the demand or supply-side approach may not be workable in all setups as the impact of fiscal policy varies between developed and developing nations and from country to country, and it is also intertemporal. For instance, the Keynesian expansionary fiscal policy or demand-side approach was introduced during the Great Depression of 1932, and it was proved popular to a great extent. However, this approach could not conclude in successful expedition in several developing countries that underwent financial crisis. The reasons could be linked with ethics/morals of the public policymakers who are more inclined towards their own interest while making a policy or taking a decision in public offices. Their policy is more leaning towards their own personal interest which may be the center point for the existence of moral hazard problem in a policymaker of public or private organization.

In most cases, the literature on public finance highlights that the political government extends subsidies to their political workers without following the basic norms of public financial management. In many cases, loans are granted without any proper collateral. These loans turn out as bad debt or non-performing loans. Furthermore, no proper attention is given on

project selection at the time the borrowing is made. Many government interventions that focus on offsetting the losses of some members of society at the expense of the general taxpayer generate moral hazard as it results in distortionary costs for society as a whole (Mussa, 2002). Furthermore, Alam (2012) documents that policymakers at federal level usually take decisions on public debt management on short-term basis that usually focus on their own self-interest.

Figure 2 (see data at Annexure-II) reveals tax-expenditure gap (i.e., expenditure exceeding tax leading to deficit financing) for an average period of five years i.e., 2014 to 2018. Singapore is the only country with a slight increase in tax revenue over expenditure. Hence, there is no need for deficit financing under this state of affairs. Nonetheless, other countries depict an increasing trend in expenditure exceeding tax, implying a need for deficit financing. Azerbaijan, Mongolia, and Japan reveal a tax-expenditure gap close to 20% of GDP.

The public policy makers when tackling fiscal policy generally use Keynesians' expansionary fiscal policy. For instance, Sobel et al. (2006) documents that in expansionary fiscal policy, an increase in government expenditure and/or a reduction in tax rates is done in such a way that the expected size of the budget deficit still expands. This means that expansionary fiscal policy focuses more on increasing expenditure than increasing/innovating tax. Thus, it opens an avenue for borrowing as an ultimate source for filling the tax-expenditure gap. Rosen (1995) argues that political process tends to underestimate the costs of government spending and overestimate the benefits. Hence, it provides an opportunity for the public policymakers to achieve their objectives as one can even deduce an assumption that an increase in expenditure increases the share of public policymakers in terms of bribe/kickbacks proportionately. Similarly, a decrease or no innovation in tax rate or a relief in terms of tax exemption may also generate some premium for public policy makers in connivance with taxpayers and further attract voters in nearby election. It is also expected that an increase in tax-expenditure gap may lead to reliance on deficit financing, which is not supportive under the norms of sound public financial management. A persistent deficit financing for a long time may lead the country to the path of a debt trap (Alam, 2007). Hence, such policy may be tantamount to bad behaviour or moral hazard on the part of public policymakers under agency theory.

### **Resource Sharing**

Usually, there remains a big dispute among federal, states, and local governments in most developing countries on distribution of resources out of the national divisible pool. In a crisis-ridden country, this issue becomes a

matter of great concern, as the federal government, under such circumstances, tries to grab a bigger share out of the pool with the justification of national interest. The states and local governments, on the other hand, try to project their own constraints and are usually reluctant to share any burden at national level. The evidence is quite visible in a group of countries which have been caught in public debt crisis (Alam, 2007). In most developing countries, the Federal Government acts as the ultimate custodian of the domestic and foreign debt. Therefore, it has more leverage to claim undue share out of the national divisible pool with a justification of heavy burden of servicing/retirement of national debt. Gurtner (2002) discusses this issue briefly in the context of national debt problem in Argentina. While analyzing the resource distribution problem. In case of India, Rao (2000) concludes that the transfer system from the center to states has an inherent moral hazard problem.

Williams (2020) discusses the moral hazard problem in US federal system with reference to federal aid to state governments and municipalities. He points out that although the federal government is the only agent that can backstop state revenues during a crisis, federal lawmakers have the incentive to abstain from doing so. Federal legislators may polish their reputations for budget discipline while state and local officials face the political price for layoffs and cuts. With this in mind, it is not possible for states to be exemplified as the agents in a moral hazard problem. When the economy collapses, their bankruptcy is not their fault. Given the highly procyclical nature of both their income and expenditure streams, they face an acute capital structure trap in an economic downturn (Pettis, 2001). He further argues that the federal government is the only agent capable of providing them insurance against this capital structure trap and delivering them with an associated capital structure. With this shift in mind, there is still a moral hazard problem, quite different from that presented by the fiscal federalism literature.

The procyclical rejoinder by state governments exacerbates the recession locally since the government lays off workers and inhibits spending at the same time as the private sector. This redounds on the tax available to the state government, which pushes a further round of cost-cutting. This process mimics Pettis's account of the capital structure trap, where traders are compelled into counterproductive, procyclical positions by virtue of their expenses rising at the same time as their incomes fall (Pettis, 2001). The only entity capable of providing a counterbalance that would halt this process is the federal government. At this point, moral hazard resurfaces. Politicians at the federal level conceal themselves on spending as little money as possible, in the name of "sound finance" and "deficit reduction" (Henwood, 2019). They consider themselves liable for and their voters hold them accountable for national outcomes. Federal level politicians are able to avoid guilt for the fiscal crises of state governments by arguing that the state governments are living

above their means and undeserving of a bailout by the federal government. They can influence state governments to engage in counterproductive austerity since its catastrophe as economic policy will not impact them politically.

This is a classic principal–agent problem. The federal government is the only body that can diminish the capital structure trap of state governments. Nevertheless, its enticements are such that its decision makers gain from aggravating the capital structure trap. The moral hazard problem in a modern federation is one in which the federal government is the only entity that can deliver to state governments the tools they can use to defend themselves from economic conditions outside of their control. However, the same federal government has an enticement structure that keeps them from delivering these tools to state governments. This is fundamentally different from the perception of moral hazard as a concentrated benefit and dispersed cost within the fiscal federalism literature. From a theoretical point of view, the only way to solve this truly operative moral hazard problem is to buckle the hands of legislators (Williams, 2020a, 2020b).

Willaim (2020) discusses that there are principled objections to the federal government delivering financial assistance to states as they manage to put on faulty theoretical grounds. Although it is framed sometimes in its biased form as “bailing out high-spending blue states.” If state governments form beliefs that they can trust federal support based on conventional argument, they will have an enticement to spend beyond their means. The federal fiscal aid generates moral hazard. The fundamental flaw of this moral hazard objection, in formal terms, rests on the premise that state governments are “agents” in a principal–agent problem. This study, in this perspective, believes that none of the government at any tier can claim “principal” for itself in accordance to any set of doctrine. This is because only the citizen of a country is the true “principal” in all situations as they (citizen) sponsor all expenses to run the affairs of the government through taxes and fees.

## **Subsidies**

A subsidy is an enticement provided by the government to individuals or businesses in the form of cash, grants, or tax breaks that enhance the supply of certain goods and services. It is an instrument through which consumers can get access to cheaper products and commodities. Schwartz and Clements (1999) document that governments deliver subsidies to accomplish different policy objectives, including compensating market imperfections, manipulating economies of scale, and meeting various social policy objectives. The literature in this background emphasises that government employs subsidies as a tool to accomplish its political objectives. In most cases, it offers subsidies to a target group in order to achieve its political objectives without recognizing its long-term influence on the economy of the

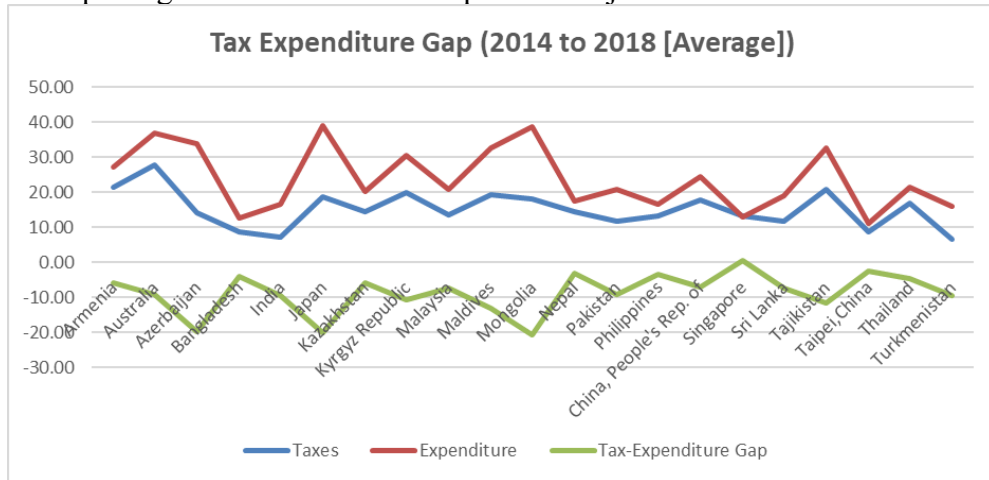
country. Their only intention is to obtain political support from the beneficiaries of such subsidies. Receiving such helps from the government to a particular group of citizens usually promotes a distortionary impact on taxpayers who do not receive these reliefs in return.

Schwartz and Clements (1999) state that subsidies enforce a substantial burden on the economy both in terms of fiscal costs and adverse effects on efficiency. They also speak out that in the appraisal of fiscal burden of subsidies and preferences for reform, it is essential to concentrate on improving transparency, boosting cost effectiveness, restricting duration, bolstering cost control, and choosing a rational approach to subsidy policies. While economic considerations suggest that subsidies can only be justified under extremely specific situations, in most cases where subsidies have been used, they would be challenging to justify on merely economic grounds. In practice, subsidy programs are often expensive in terms of their fiscal and quasi-fiscal burdens and the distortions they cause in resource allocation. Furthermore, they are ineffective in reaching their expected target group of recipients.

The literature also underlines that subsidy may sometimes have undesirable enticement effects. For instance, Grosh (1994) evaluated six (06) studies on general food price subsidies and observed that the benefit incidence was regressive in each case, such that the subsidy benefitted the rich more than the poor in absolute terms. Similarly, Pinstup-Andersen (1988) analyzed food subsidy programs in a number of countries and discovered that, in absolute terms, higher-income households usually received more benefits than lower-income groups. In another study, Petrei (1987) found that, in Latin America, water and sewage subsidies were heavily skewed toward upper income groups. Also, in Bangladesh, a lopsided share of infrastructure subsidies was garnered by the nonpoor (World Bank, 1994a). Previous research on government subsidies has often been created in national administrations and has mostly been forced by concerns that subsidies and other special benefit programs were turning out of control. Putting it more candidly and possibly resonating with public sentiment, a recent article concluded that 'where there are subsidies, there will be fraud' (The Economist, 1994; as cited in Schwartz & Clements, 1999).

In several instances, governments do not seem benevolent or welfare oriented while initiating a subsidy programme. However, its main objective is to compensate for the failures. By such interference, the allocative mechanism may withstand some distortion such as market failure, policy failure or both. For instance, Mussa (2002) mentions that many government interventions focus on offsetting the losses of some members of society at the expense of the general taxpayer may generate moral hazard as it results in distortionary costs for society. There are many literatures on this subject highlighting moral

hazard problem in policymakers in the government who design such kind of relief package to achieve their own political objectives.



**Figure 2.** Tax Expenditure Gap

## Conclusion

The menace of moral hazard problem can be lessened through a proper Reward Punishment Approach (RPA). Under existing setup, a weak compensation system with severe punishment mechanics indicates flaws in PRA which needs improvement through reforms in existing RPA. This paper recommends bringing the compensation system (i.e., take-home salary in terms of cash and a provision of additional premium) at par with market-based package along with various perquisites. The study expects a bare minimum financial implication which may be affordable for the government in order to decrease moral hazard problem to some extent, thus leading to a better delivery of public goods and services for the citizens of the country.

This study could not cover the subject more thoroughly due to data constraint. Thus, it could only portray a limited and macro level approach on tax culture, deficit financing, resource sharing, and subsidies. Descriptive approach was used through secondary data of macroeconomic indicators in the case of tax culture and deficit financing. Also, the remaining two topics, resource sharing and subsidies, were solely covered through discussion in narrative format. Accordingly, an empirical attempt on the aforementioned topics for future research is recommended. Furthermore, a case study of public and private sectors may reveal some interesting and unique aspects of moral hazard problem in both sectors.

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<b>Annexure-I % of GDP (2015-19-Average)</b>	
<b>Countries</b>	<b>Taxes</b>
Afghanistan	8.37
Armenia	21.48
Australia	28.03
Azerbaijan	14.23
Bangladesh	8.59
Bhutan	15.15
Cambodia	16.40
Georgia	23.99
India	6.98
Indonesia	11.49
Japan	18.68
Kazakhstan	14.01
Kyrgyz Republic	19.79
Kiribati	23.45
Republic of Korea	19.01
Malaysia	12.91
Myanmar	7.64
Nepal	19.85
New Zealand	30.96
Pakistan	12.09
Philippines	13.64
People's Republic of China	17.20
Singapore	13.35
Sri lanka	12.13
Tajikistan	20.48
Thailand	16.66
Uzbekistan	19.36
Viet nam	18.25

<b>Annexure-II % of GDP (2014-18-Average)</b>			
<b>Countries</b>	<b>Taxes</b>	<b>Expenditure</b>	<b>Tax-Expenditure Gap</b>
Armenia	21.41	27.32	-5.90
Australia	27.70	36.95	-9.26
Azerbaijan	14.24	33.87	-19.63
Bangladesh	8.74	12.60	-3.86
India	7.093	16.54	-9.45
Japan	18.88	38.90	-20.01
Kazakhstan	14.56	20.22	-5.66
Kyrgyz Republic	19.99	30.47	-10.48
Malaysia	13.49	20.73	-7.25
Maldives	19.44	32.60	-13.16
Mongolia	18.21	38.72	-20.51
Nepal	14.45	17.65	-3.20
Pakistan	11.80	20.83	-9.03
Philippines	13.35	16.64	-3.29
People's Republic of China	17.70	24.54	-6.85
Singapore	13.44	12.88	0.57
Sri Lanka	11.83	19.09	-7.26
Tajikistan	20.95	32.56	-11.61
Taipei, China	8.61	11.20	-2.59
Thailand	16.88	21.47	-4.59
Turkmenistan	6.51	15.98	-9.47



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## Exploring the Role of Decentralization in Resource Marginalization in Kenya

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### Abstract

Against a background of decentralization in Kenya, limited previous research examines its role in resource marginalization in the country. Specific objectives include identifying the socio-economic sources of resource marginalization and identifying solutions to the socio-economic resource marginalization. The results of the study will improve our understanding of decentralization. Qualitative data was collected and analysed using thematic analysis. Quantitative data was collected and analysed using Statistical Package for the Social Sciences (SPSS). The study found that though decentralization has been used as a vehicle to alleviate poverty, it has led to some form of marginalization of certain key groups in the society. Recommendations for policy and further studies are made from the conclusions emanating from the academic study.

**Keywords:** Decentralization, Resource, Socio-economic, Marginalization

### 1.1. Introduction

In the recent past, policy response pertaining to participation has epitomized many aspects of contemporary societies, especially those relating to development, particularly in Sub-Saharan Africa (SSA). Issues in development are salient not only because they touch individuals and communities in important respects, but because they expose many of the

political, economic, social, and ethical dilemmas of the time. These issues are likely to continue to gain public attention and consume increasing amounts of resources as nations are faced with a myriad of problems, poverty being one of them. According to Amin (2011), this is caused by relative economic stagnation.

Efforts to combat inequality and poverty has risen to the top of the international agenda (Desandi, 2014; Ymeraj, 2018). Development in most countries is increasingly driven through decentralization, including the devolution of government funds (Mollel, 2010; Litvack *et al.*, 1998). Devolved funds are development schemes designed to transfer money directly to the local authority, ward, constituency or district to finance local development projects such as schools, markets, hospitals, roads, housing, irrigation schemes, bridges, power, water, etc. According to Ndi (2010, p. 4), “devolved funds are ring-fenced monies for which decision making has been delegated to local entities, such as committees of one type or another, that have community participation or control.” The concept has a strong component of citizen participation (Republic of Kenya, 2016; Mollel, 2010).

Decentralization is widely recognised as the best way to cope with the ever-increasing challenge of inequality (Drăgan & Gogenea, 2009). The Local Development International (LLC) notes that decentralization “involves assigning public functions, including a general mandate to promote local well-being to local governments, along with systems and resources needed to support specific goals” (LLC, 2013, p. i). According to the Institute of Economic Affairs (IEA), inequality has resulted in the establishment of devolved funds to tackle regional socio-economic inequality (IEA, 2014).

Public sector decentralization has become a global phenomenon that is pursued in many countries with the given intention (s) of improving service delivery, enhancing governance and accountability, increasing equity, promoting a more stable state, etc. (LLC, 2013). Following the end of the Cold War and the subsequent opening up of political space in Africa, several nations not only opened up political space by introducing multiparty system, but also reformed their administration and gave local actors more power in the management of public affairs. The reforms were introduced after pressure from citizens, donors, and development partners, including the Bretton Woods institutions and the Paris Club member countries.

## 1.2 Literature Review

Today, decentralization as a foundation of good governance has become the tool of social harmony and development in the world (Wato, 2012). This is in addition to the level of efficiency and equity that is achieved through greater retention and fair or democratic distribution of benefits from local activities (Ribot, 2002; Chilwalo, 2016).

Kenya has had various policies and attempts towards decentralization and community participation from the pre-colonial period. The various communities that make up the nation of Kenya have been known to pull resources together to achieve societal good (Mboya, 1993). During independence, the country adopted a federal system of government before reverting to the highly centralised form. Under the centralised form of governance, some forms of deconcentration through established local authorities, government corporations, and parastatals were introduced.

Kenya's decentralization has been cited as one of the most ambitious globally (World Bank, 2011; KPMG, 2013). After independence, the post-independence development blueprint, *Sessional Paper No. 10 of 1965*, proposed investment in the high potential areas with the anticipation of surplus reproduced being redistributed to the low potential areas as a strategy for effective reduction of nationwide poverty, ignorance, and disease (Republic of Kenya, 1965).

According to Society for International Development (SID), though the sessional paper recognized regional disparities, it did exacerbate them through ineffective redistribution systems (SID, 2012). The high potential regions in the country had already benefited from colonialism as colonial infrastructure investments focused exclusively on the 'White Highlands'. The White Highlands were Kenya's best and most fertile farmland, expropriated through a succession of land regulations between 1899 and 1915 for European settlement (Africa Watch, 1993, p. 23).

The need for equity since independence has fueled long-standing demands for decentralized management of equitably shared budget resources and service delivery through devolved funds as opposed to centralized government (Mwenda, 2010; SID, 2012). SID reports that a powerful executive arm of the government patronized the distribution and allocation of public resources, leading to serious regional inequalities. To tackle inequality and poverty, Friedrich-Ebert-Stiftung (2012) reports that the government of Kenya implemented decentralized anti-poverty programs designed to distribute assets, cash or services to households, individuals, and communities through line ministries, which in turn allocate the funds to the various districts and communities. However, after decades of the project/program's target and implementation through line ministries, it became apparent that channeling funds through ministries was not effective and there were many leakages to the extent that many poor communities were marginalized and were never reached by the anti-poverty programs.

Against this background, the government decided to create alternative windows that allow the allocation of additional resources directly to districts and communities without going through line ministries (Friedrich-Ebert-Stiftung, 2012). In the recent past, for instance, there has been a massive

increase in resources devoted to the youth, women, ward, constituency, and community-based development programs. This direct disbursement of funds is intended to reduce poverty and improve project implementation by using local information and encouraging community participation in project identification, implementation, and evaluation. The funds are to enhance the community infrastructure, welfare, sanitation, and environmental protection. Furthermore, the funds are important to tackle environmental problems as the environment is increasingly being polluted (Kitause, Gemade, & Jando, 2020).

The United States Agency for International Development (USAID) notes that devolved funds have empowered the youth and women to promote their own socio-economic development and establish private employment (USAID, 2014). The funds have been credited for the massive transformation of infrastructure at the local level, especially in the hitherto marginalized regions. On the other hand, according to The Institute of Certified Public Accountants of Kenya (ICPAK), though the state has allocated substantial resources to decentralized funds since the 1990s, this has not significantly improved the national response to poverty, inequitable resource distribution, and general livelihoods of the people (ICPAK, 2014).

In addition, the funds are not making the anticipated impact. In a study by Muriu (2013), participation is said to be limited by space. In other instances, participation is not binding or is not in an active form. It further decreases as it progresses from needs identification to implementation, monitoring, and evaluation. The reasons for the dismal performance of the funds are attributed to a myriad of challenges, such as lack of effective participation of local communities in selecting, prioritizing and implementing development projects, poor public finance management at national and sub-national levels, and lack of institutional monitoring and evaluation mechanisms. It also lists duplicity and overlapping of the devolved funds, weak accountability structures, and political interference. In this study, the focus is on exploring the role of decentralization in resource marginalization in Kenya.

### **1.3. Methods**

The study was conducted in UG County in the Rift Valley (RV) Province of Kenya. Kenya comprises a land area of 225,000 square miles (Muleri, 2009). The Republic of Kenya lies in the eastern coast of Sub-Saharan Africa. The country has a total area of 582,646 square kilometres of which 571,466 square kilometres form the land area and approximately 80% of the land area of the country is ASAL. However, only 20% of the land is arable (KNBS & ICF Macro, 2010). The country lies between 5 degrees north and 5 degrees south latitude and between 24 and 31 degrees' east longitude. In addition, it is almost bisected by the equator. The country is bordered by

Ethiopia in the north, Somalia in the north-east, Tanzania in the south, Uganda and Lake Victoria in the west, and South-Sudan in the north-west. It is bordered on the east by the Indian Ocean.

UG is one of the 47 counties in Kenya. The County is a highland plateau with altitudes falling gently from 2,700 meters above sea level to about 1,500 meters above sea level (Uasin Gishu County, 2013). The county is one of the most cosmopolitan in Kenya and a home to ethnic groups of the Bantu, Nilotic, and Cushitic extraction (Kyrili *et al.*, 2012). It is located mid-west of the Rift Valley and borders six counties, namely: Elgeyo-Marakwet to the east, Trans Nzoia to the north, Kericho to the south, Baringo to the south-east, Nandi to the south-west, and Bungoma and Kakamega to the west (Kyrili *et al.*, 2012). According to the Uasin Gishu County Integrated Development Plan (2013-2018), the county lies between longitudes 34 degrees 50' east and 35 degrees 37' west and latitudes 0 degrees 03' south and 0 degrees 55' north (Uasin Gishu County, 2013). It covers a total area of 3,345.2 Sq. Km. The County is a highland plateau with altitudes falling gently from 2,700 meters above sea level to about 1,500 meters above sea level. The topography is higher to the east and declines gently towards the western border.

The study was allocated within mixed methods of qualitative data in conjunction with quantitative data. Qualitative data was obtained through secondary sources (content analysis), primary sources, expert interviews (in-depth interviews), and by seeking out the 'why' through analysing unstructured information from the open-ended survey responses. Interview checklist or discussion checklist was used to obtain data. Expert Interviews were held on a one-to-one basis with the officials who run the funds. A digital tape recorder was used in the expert interviews, which were digitally recorded and preserved verbatim. Short hand notes were also taken during the interviews.

Quantitative data was collected through survey. Before the full-scale survey fieldwork started, the validated interview schedule and interview checklist were then pilot tested in two phases to ensure reliability of the instruments and to identify and resolve any arising issues (United Nations, 2005). Different types of neighbourhoods and social classes within the county were all represented in the sample (KNBS, 2007; Peck *et al.*, 2008).

Table 1 gives a breakdown of the number of households sampled in each district. The first column lists each district. The second column lists the number of households within each district. These figures are obtained from the 2009 census results. The third column indicates "household proportion" and is calculated by dividing the number of households in each district by the total sample size (530). The most conservative sample size needed for the study was calculated to be 384. The study sampled 530 respondents who were randomly selected to comprise the sample, which was designated to generate



representative statistics at the county and districts levels. There are 88,956 households in Eldoret West, 51,469 in Eldoret East, and 61,866 in Wareng district (KNBS, 2013). The fourth column illustrates “sample size” and is calculated by multiplying the third column by the total survey sample size to get the sample size for each district.

**Table 1.** Sample Size Selection of Eligible Households by District for Random Sampling

District	Total number of households	Household proportion	Sample Size
Eldoret West	88,956	44.00	233
Eldoret East	51,469	25.44	135
Wareng	61,866	30.58	162
<b>Total</b>	<b>202,291</b>	<b>100.00%</b>	<b>530</b>

Source: KNBS (2013)

Systematic sampling procedure was used. to select heads of households (male or female) from each of the estates at a constant interval of ten. Through this sampling procedure, every tenth household head was selected in a circular systematic fashion with equal probability, especially after a random start, until the required number of sample household heads within each stratum was reached. The sampling strategy allowed for substitution of the selected households in the field if they were not available despite repeated attempts to contact them or if they refused to participate in the survey. The procedure resulted in a sample size of 180 household heads from the estates. The eligible household heads were canvassed through the schedule to elicit data.

#### 1.4. Results

This section presents the results and discusses the key findings of the study in line with its stated objectives. Table 2 indicates the data collection methods. The interview periods lasted for 30 minutes for each subject. From the in-depth interviews, it was established that most of the devolved funds in Kenya were established in the 1990s and 2000s. The oldest was Secondary Education Bursary Fund (SEBF), which was established in 1993, and the newest is the *UwezoFund* (Table 3).

**Table 2.** Expert Data

Primary Data	Secondary Data
Interviews	Websites
Survey	Newspapers
	Magazines
	Government data

Source: Author

**Table 3.** List of Devolved Funds

<b>Devolved Fund</b>	<b>Year Established</b>
Secondary Education Bursary Fund (S.E.B.F)	1993
Community Development Trust Fund (CDTF)	1996
HIV/AIDS Community Initiative Account(HIV/AIDS CIA)	1999
Local Authorities Trust Fund (LATF)	1999
Poverty Eradication Loan Fund (PELF)	1999
Water Services Trust Fund (WSTF)	2002
Constituency Development Fund (CDF)	2003
Free Primary Education Fund (FSEF)	2003
Disability Fund (DF)	2004
Youth Enterprise Development Fund (YEDF)	2006
Rural Electrification Programme Levy Fund (REPLF)	2006
Women Enterprise Development Fund(WEDF)	2007
Road Maintenance Levy Fund (RMLF)	2007
Tuition Free Secondary Education (TFSE)	2008
Uwezo Fund (UF)	2013
InuaJamii Fund -IJ-Cash for senior citizens	2014

*Source: Field Data*

**Table 4.** Reasons Household Members are not Involved in Devolved Funds

<b>Variable</b>	<b>Frequency</b>	<b>%</b>
Application/proposal was rejected	17	3.2
Accessed credit from financial institutions/NGOs	93	17.5
Corruption	29	5.5
Denied permission by family members	8	1.5
Group was not registered	3	0.6
Had no need to participate	57	10.8
Lack of identification card	16	3
Lack of information on the application procedures	35	6.6
Long distance to the fund offices	16	3
Longer time to benefit	29	5.5
Not aware of the funds	19	3.6
Religious values, principles and practices	8	1.5
State/political infiltration	12	2.3
Stringent application procedures/requirements	10	1.9
Others	16	3
Application dates elapsed	18	3.4
No response	144	27.2
<b>Total</b>	<b>530</b>	<b>100</b>

*Source: Field Data*

As presented in Box 1, in-depth interviews indicated that there is a high demand for the funds. Publicity on the funds is done through various means including mass media among others. In addition, some of the funds are segregated for women, youth or persons living with disability. However, as presented in Table 4, there are diverse reasons why the people participated in the devolved funds.

**Box 1. Participation in Devolved Funds**

<b>Citizen Participation in Devolved Funds</b>	
1.1.	The funds do not match the demand.
1.2.	Awareness of the devolved funds is made through newspapers, radio, television, road shows, posters, word of mouth, websites, and public meetings ( <i>Baraza</i> ).
1.3.	Some of the funds are segregated (e.g., for youth, women, disabled), while some are not segregated (open to all groups e.g., CDF, WSTF, CDTF).
1.4.	Selection of beneficiaries for some of the funds is done in public meetings (e.g., CDF, CDTF), while some is done in the funds' offices (e.g., DF, YEDF, WEDF).
1.5.	Differences in citizen participation.
1.5.1.	Rural residents prefer agricultural and livestock projects.
1.5.2.	Rural residents are more involved with funds given as grants as they desire to improve community infrastructure and well-being.
1.5.3.	Women and youth respond more to the devolved funds than men do.

*Source: Field Data*

As indicated in Table 5, more men and male household heads were involved in the funds than women were. The young, the employed, the highly educated, and those living without disability participate more in the funds. In general, residents of UG County and those from rural areas in particular benefit from the funds more than those from outside the county and urban areas respectively. Those in non-rental homes and without access to commercial credit reported higher levels of participation in the devolved funds.

**Table 5.** Respondents Participation in Devolved Funds (n=325)

<b>Characteristics</b>	<b>Category</b>	<b>Frequency</b>	<b>Percentage</b>
Gender	Male	177	54.5
	female	148	45.5
Age	18-39	194	59.7
	40>	131	40.3
Household head	Male	192	59.1
	Female	133	40.9
Employed	Yes	197	60.6
	No	128	39.4
Marital Status	Married	207	63.7
	Single	118	36.3

Education level	Primary	53	16.3
	Secondary	110	33.8
	Tertiary	163	49.8
Disability	Yes	69	21.2
	No	256	78.8
County of birth	Uasin Gishu	183	56.3
	Other	142	43.7
Residence	Rural	165	50.8
	Urban	160	49.2
House tenure	Rental	842	5.8
	Non-rental	241	74.2
Access to Commercial credit	Yes	219	67.4
	No	106	32.6

*Source: Field Data*

## 1.5. Discussion

The in-depth interviews, survey results, and secondary data were analysed and examined in relation to the research questions in the study. The persisting unequal treatment of men, women, boys, and girls require affirmative action to provide each of them an opportunity to exploit their full endowments towards maximising their entitlements (SID, 2012). Evidence indicate that most devolved funds were established in the 1990s and the 2000s (ICPAK, 2014). This is a unique period in the history of Kenya and other Sub-Saharan African countries. When the Berlin wall collapsed in 1989, it paved the way for German reunification in 1990 and the end of the Cold War. Consequently, the ideological differences between the East and West that had hindered progress in African countries were dismantled (Kumassa & Jones, 2015). Public reforms became obvious and there were socio-economic and political transformations.

Most African countries transitioned from single-party rule to political pluralism (multi-party democracy), thus ending the one-party rule through competitive elections (Olowu, 2011). People became more aware of their rights and demanded for certain basic services from the state. The civil society, college students, university lecturers, workers' unions, professional organisations, religious leaders, and ordinary people led in the struggle for basic rights (Wanyande, 2009).

At the same time, the effects of Structural Adjustment Programmes (SAPs) on the economies of the countries of Africa had become manifest (Kumssa & Jones, 2015; Heidhues & Obare, 2011). It was the beginning of the free market economy. Cost sharing was declared an official government

policy in 1988 (Bunyi *et al.*, 2011). The SAPs also included austerity measures in the public service, which resulted in retrenchment of government workers and freeze on employment in the public sector even as household incomes dwindled.

The devolved funds were established to cover various areas from education, healthcare to basic infrastructure. Decentralization, through social funds, sought to target and empower poor communities to improve participation and local service (Parker & Serrano, 2000). The social funds have two goals: increasing sustained access of the poor to local services and infrastructure; and empowering communities through participation in the selection, implementation, and ongoing operation and maintenance of development projects.

Place of origin or county of birth is an important feature in Kenya. Home County is not necessarily the county of birth in Kenya. Home County, in most cases, is the ancestral home. Those who were born in UG County reported higher percentage of participation in the devolved funds. However, those from other counties participated less in UG County devolved funds.

The population of UG County is more rural. By default, the rural inhabitants benefit the most. The constituencies are political representation areas, which play an important role in the devolved funds. Constituencies have well laid structures that enable the community to be involved in the devolved funds. They are a strong unit for mobilizing the people involved in the devolved funds. Across the county, the constituencies received direct funds like the CDF from the national government, or other funds like HIV/AIDS and CBF, which are channeled through the constituency. Participation in the devolved funds is highest at the constituency. The CDF is a constituency-based fund that uses its structures to offer bursaries to needy students.

Men and male household heads participate the most in the funds. Due to patriarchal set ups, most of the household property is registered under the name of the male head or male folk in the household. Hence, women are disadvantaged from the conventional financial institutions that require collaterals for credit. The devolved funds are meant to help women and other vulnerable groups that are not able to meet the credit requirements offered by the available banks, micro-finance, and shylocks (groups or persons lending money at excessive rates).

The WEDF fund is segregated for women from the start. Women have an upper hand in participating in the fund. Men can also form a minority (up to 30%) in the women groups but cannot hold any leadership role. It was established to support women-owned enterprises in Kenya, which comprises 48% of the total micro and small enterprises (Kiraka *et al.*, 2013). This is because women are more organized in groups and suffer most from poverty at the household level.

Since the fund targets women groups or groups with more women, this allows for more women participants than men. The young and more educated participate in the funds due to their high literacy levels because they are more informed about the funds and their requirements.

## **Conclusion**

Study on decentralization has been increasing in the recent past. Growing empirical evidence in development literature indicates that decentralization is becoming increasingly more pronounced as a form of governance, thereby making the study on devolved funds topical and necessary. Devolution of services to everyone is a duty imposed by the Kenyan Constitution. Decentralization has been propagated as a development paradigm shift to enhance citizen participation in poverty reduction efforts. The national government strives to enhance decentralization at the local levels, with a special focus on ensuring participation in poverty alleviation of the marginalized groups such as women, youth, children, orphans, elderly persons, persons living with disabilities, the indigenous people, those affected with HIV/AIDS affected, and other vulnerable groups.

There has been an increase in the number of devolved funds in Kenya with subsequent increment for allocation to the funds (Mwenda, 2010). The devolved funds target improved food security, healthcare, installation of security, electricity, roads, and water infrastructure. Most of the previous studies have been conducted on the influence of the devolved funds to improve livelihoods and basic infrastructure of intended communities. Other studies have examined the absorptive capacities of the devolved funds, allocative rationale, and governance issues surrounding the funds. The perspective of the current study had an emphasis on the intended recipients of the funds. However, the funds have improved the standards of living of the participants and has marginalised women, urban areas, the disabled, the unemployed, and the lowly educated. In addition, the funds are less beneficial to those from outside their home counties. This is an aspect of marginalization. There are also cases of people or groups benefiting multiple times from one or more funds. Serial defaulters can easily move from one devolved fund to another. This can be avoided through automation of the funds and mergers. Proper keeping of records and automation will help to weed out double or multiple applicants. Although this study was limited to UG County, it is important recognize that generalization from the sample has provided compelling evidence that can be inferred to other counties in the country.

## **Recommendations**

Recommendations are made based on the outcome of the study and the conclusions drawn. Decentralization is a policy program that has taken root in

many countries but in different forms. Nonetheless, devolved funds is a major policy concern in development today. Amidst reports of success, the funds have been found to marginalise segments of the society. Thus, there is need to examine the lending structure of the funds to deepen them and expand their reach in the community without marginalising any segment in the society. The existence of several funds targeting the same projects and beneficiaries leads to duplication. Therefore, it is better to merge the funds into two or three broad funds.

The scale of this debate is not exhaustive. The current study was conducted on a limited scale. To produce achievable policy strategies and development targets with regards to devolved funds, there is need for further studies to allow for comparisons of the results on the subject. More research needs to be done to broaden the geographical scope and develop similar study in other areas. Data collection in this study is cross-sectional in nature. The data was collected at one specific point in time. A future study that employs longitudinal research designs to examine participation over a period of time would capture repeated observations and trends in participation in devolved funds. Although many studies on devolved funds have been conducted in the past, there is still more work to be done. In recent years, the results of various research studies have taken center stage in the popular media. As a result, more informed policies can be formulated. Therefore, the findings of this study, along with several others produced on devolved funds, should stimulate greater interest in this line of inquiry.

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## Peer-to-Peer (P2P) Lending in Europe: Evaluating the Default Risk of Borrowers in the Context of Gender and Education

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### Abstract

In recent years, the importance of social lending activities and their effects on consumers have been highlighted by the widespread use of peer-to-peer lending platforms and the global race in fintech. Our study focuses on factors that affect the likelihood that European borrowers on peer-to-peer lending platforms, which are currently based in Estonia, Finland, and Spain, will default on their loans. Starting with the publicly accessible Bondora database, we examine the different economic and social characteristics of the borrowers to analyze the factors that contributed to loan default between 2013 and 2021. We use a Logit model to calculate the ex-post probability of default for factors derived from Principal Component Analysis as well as the original variables supplied by the database. The results show how crucially important education is for borrowers in lowering the risk of default, along with loan characteristics like high debt levels, long loan terms, and high interest rates. In addition, gender plays an important role in determining loan default, with a particular focus on women's conditions within the family. Regarding financial inclusion and its social implications, our findings suggest different ways to

improve financial literacy and promote peer-to-peer lending. Future research could develop on the findings by applying them to other lending platforms and countries.

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**Keywords:** Peer-to-peer lending; education; gender gap; financial literacy

## **Introduction**

Nowadays, financial technology is recognised as one of the most vital innovations in the financial industry. As supported by an internet-based platform, peer-to-peer (P2P) lending has been introduced as a new e-commerce phenomenon in the financial field. In this context, bringing more economical efficiencies has great potential according to Milne and Parboteeah (2016) and Bachmann et al. (2011). The P2P lending market offers the possibility to get a loan even for those borrowers who would often not be eligible on traditional lending channels. The P2P lending market might represent a substitute for the traditional bank lending market (De Roure et al. 2022). P2P lending offers a better rate of return to lenders and greater access to credit at affordable costs for borrowers. Therefore, this type of lending can outperform traditional lending in the retail sector (Wardrop et al., 2016).

From a borrower perspective, P2P lending platforms provide a lower access threshold than traditional lending. For instance, in P2P lending, the borrowers are mostly small and medium owners and some low-income carriers (Jiang et al., 2018). However, despite the rapid growth, P2P lending platforms face threats from higher levels of default rates due to their rules of making loans to customers who have a lower level of credit. One of the key requirements for inventors is to assess and manage the risk of default loans of borrowers to sustain the development of the P2P lending platforms. If the platform cannot help them manage the risk and obtain a reasonable rate of return on the investment in P2P lending, they will leave it. (Zhou et al., 2021) On one hand, P2P lending platforms are flexible when it comes to the availability of credit information through both soft and hard financial information to assess borrowers' creditworthiness (Wang et al., 2019). On the other hand, one of the main problems that arise in traditional lending and P2P lending is information asymmetry between lenders and borrowers.

Additionally, efficient data analysis techniques like big data can play an important role in mitigating information asymmetries in P2P lending platforms (Yan et al., 2015). Moreover, Chen et al. (2020) empirically studied the cash flow implications of P2P lending and found that the cash flow of P2P platforms is affected by reputation, capital, and operational structure. However, there is another way to mitigate information asymmetry through social networking. In this context, group leaders can effectively act as an effective way to monitor the liability. (Jin and Freedman, 2014). In this vein,

Kgoroadira et al. (2019) found that borrowers' due diligence plays a vital role in P2P lending and can target funding success to reduce information asymmetry and adverse selection.

Finally, this study contributes to the growing literature on determinants of the probability of defaults by exploring the rapidly developing P2P lending sector. The assessment of default risk in P2P lending platforms has become increasingly prominent due to the unsecured nature of those loans, which makes the ability to predict default risk an essential criterion in identifying credit risk. Based on this, the goal of our study is to evaluate the default risk of borrowers using loan data from a European P2P lending platform, Bondora which is a leading P2P lending platform in Europe, established in 2009 and currently based in Estonia, Finland, and Spain. The assessment of default risk in P2P lending platforms has become increasingly prominent due to the unsecured nature of those loans, which makes the ability to predict default risk a essential criterion in identifying credit risk. Based on this, the goal of our article is to evaluate the default risk of borrowers using loan data from Bondora which is a leading P2P lending platform in Europe, established in 2009 and currently based in Estonia, Finland, and Spain. With one million customers, as of May 16, 2022, Bondora has issued P2P loans that total 605.429 million euros. Among determinants of the probability of defaults, we underline the key role of education coupled with a series of elements that can be reconnected to some features of the broad and not well-defined concept of financial literacy (see Houston, 2010, and Atkinson and Messy, 2012, among other studies), such as over-indebtedness behaviors and these represent contributions to the existing literature on financial literacy and financial inclusion. Moreover, by providing some clues on the gender gap in P2P lending, the analysis of the linkage between women's role in social structures and the probability of default, allows us to argue about different women's clusters' conditions in repaying debts and this could represent a topic of discussion both in financial and social literature.

This paper is structured as follows. In the next section, we will perform a short review of the most closely related work on default in the P2P lending market. Furthermore, we provide the data and discuss specific features of the data set. Then, we recall the statistical models exploited to obtain our empirical results, which are shown in the remaining part of the paper. Our conclusions and some policy implications are drawn in the final section.

## **Literature review**

P2P lending can be defined as “financial exchange” that occurs between individuals without direct intermediation of a traditional financial institution (Omarini, 2018) so that it allows individuals to directly lend and borrow from each other on a common approach and on internet-based lending

platforms (e.g., Lending Club, Bondora, Prosper). It can be questioned whether it will become a disruptive innovation as a so-called FinTech product (Ahelegbey et al., 2019). However, it is clear that P2P lending is quickly spreading globally. The P2P lending platform's primary role is to match the demand for and supply of funds (Nigmonov et al., 2022). Moreover, P2P lending practices are truly examples of how new technologies can transform the financial industry's future.

A part of the existing literature analyses the credit risk and default rate of loans. By using micro-credit data in Canada, Gomez and Santor (2003) found that the default rate of group lending is lower than traditional lending. Ravina (2008) investigated a more comprehensive empirical analysis of network lending by considering the perspective of lending success rate, interest rate, and default rate. Berger and Glesiner (2009) examined P2P lending by analyzing the role of financial intermediaries using data from a P2P lending platform, Prosper.com. In the same vein, Klafft (2008) conducted an empirical analysis and found that the transaction cost of the borrower's bank account authentication and the borrower's credit rating show a positive and significant impact on the transaction cost of P2P lending. Emekter et al., (2015) developed a model to evaluate loan default risk and performance. They used data from Lending Club. They found that, amongst others, credit grade, debt-to-income ratio, FICO score and revolving line utilization play an important role in loan default. Serrano-Cinca et al. (2015) examined P2P lending and the determinants that explain loan default by using the dataset from Lending Club. Their results suggest that loan characteristics, borrower indebtedness, annual income, and current housing situation were related to loan default. Moreover, Eid et al. (2016) studied the impact of income rounding on loan outcomes by using the dataset from Lending Club, they found that borrowers with a rounding tendency have a higher probability of default and are less likely to repay their loans. Carmichael (2014) used a discrete-time hazard function to predict the default in P2P loans and found that borrower's credit inquiries, income and loan purpose are statistically significant to evaluate credit scores.

Prior studies have reported the connection between individual risk and P2P lending default. Ma and Wang (2016) exploited the method of Interpretative Structural Modelling to investigate the factors that might influence credit risk in P2P lending under three aspects: i) the features of borrowers, ii) the characteristics of P2P lending platforms and iii) the environment. The results reveal that the audit mechanism of a P2P lending platform could affect the credit risk in P2P lending besides borrower's moral level, job stability and the policy environment. Polena and Regner (2018) examined the determinants of borrowers' default in P2P lending by using the dataset from Lending Club. The findings suggest that the debt-to-income ratio,

inquiries in the past six months and a loan intended for small businesses are positively correlated with the default rate. While annual income and credit care are negatively correlated. Guo et al. (2016) conducted a study by proposing an instance-based credit risk assessment model in P2P lending to evaluate the return and risk of individual loans by using a dataset from Lending Club and Prosper. Lee and Kim (2017) used logistic regression on Survey of Consumer Finances (SCF) data for the time period 2007–2013, in order to estimate determinants of payday loans after the Great Recession. Zou et al. (2017) applied logistic regression to study determinants of Non-Performing Loans in P2P lending activities from a Chinese platform (i.e. PPDai).

Similarly, Lin et al. (2017) proposed a credit risk evaluation model to quantify the loan default risk by using a P2P lending platform in China. The empirical results suggest that gender, age, marital status, educational level, working years, company size, monthly payment, loan amount, debt-to-income ratio and borrower delinquency history play a significant role in loan defaults. Lee (2020) empirically tested a credit risk assessment model to understand P2P loan default risk. The results revealed that both the borrower characteristics and the conditions of the loan were significantly associated with loan default risk. Chen and Han (2015) conducted a comparative study between the US and China to study the differences in how soft and hard information is processed on P2P lending platforms. They found that both soft and hard have a profound impact on the lending outcomes. However, lenders in China rely more on soft credit information. In the same vein, Iyer et al. (2016) studied how lenders use soft and hard information to make investment decisions on borrowers; their conclusion was that lenders tend to use soft information for screening borrowers, especially for low-quality borrowers. More recently, Lyócsa et al. (2022) used data on loan and loan payments from both Bondora and Lending Club P2P lending platforms by comparing the out-of-sample and profitability of the credit and profit scoring using several statistical and machine learning models. They found that modelling the adjusted internal rate of return leads to much higher returns compared with modelling loan defaults. Tao et al. (2017) examined the borrower's personal financial information, and loan characteristics that might affect the P2P lending platform in China; the results revealed that among others, borrowers earning higher income are more likely to receive a loan and are less likely to default. Interestingly, the education dummy variable found positive indicates that borrowers with a higher education background may tend to take more risks. Thus, they have a higher default probability. However, given the lack of financial education in the general society, the lending marketplace may facilitate access to excessive amounts of debt due to oversupplying of credit to the financially distressed with a lower level of education (Demyanyk et al., 2017).



An extensive amount of evidence has shown that females tend to be more risk-averse than males regarding making financial decisions (Eckel and Fullbrunn 2015). In this vein, Chen et al. (2020) examined the gender gap in the P2P lending platform Renrendai. They found that lending to females is associated with better loan performance, including a lower probability of default. Similarly, Barasinska and Schäfer (2014) focused on the success of female borrowers in a large German P2P lending platform. However, Santoso et al. (2020) studied the determinants of both loan rate and default status in P2P lending platforms in Indonesia over the period 2014-2018. They suggested three different names for P2P lending platforms (Alpha, Beta, and Gamma). The results pointed out that female borrowers have a higher probability of default than male borrowers in Beta and Gamma. However, regarding marital status, they found that female married borrowers significantly reduce the probability of default, especially for the beta. Furthermore, wives are less financially literate than husbands, which is consistent with a division of labor in which husbands manage finances (Hsu, 2016). Many initiatives exist to assist women borrowers, particularly in developing countries (for example, Women's Microfinance Initiative - <http://www.wmionline.org>).

Pengnate & Riggins (2020) analysed the role of sentiment in microfinance, starting from Kiva data. The authors highlighted the critical role of text mining in providing loans in microfinance, as well as the text of the loan description of the loan description.

## Data and Methods

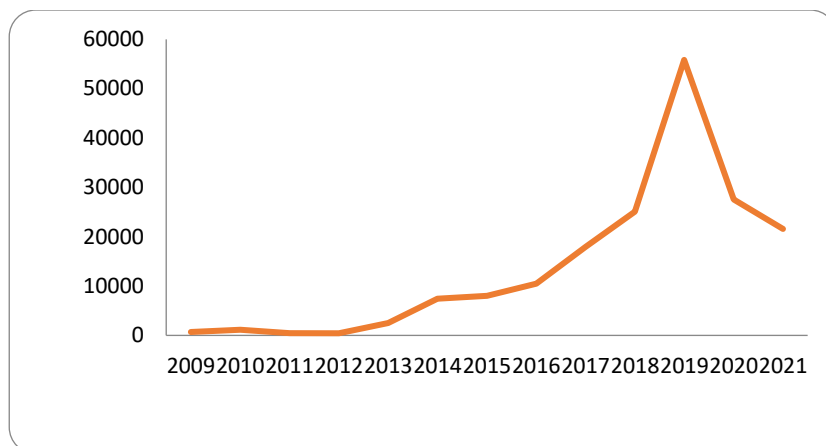
The Bondora database is publicly available and contains about 179.000 information about loans. As shown in Figure 1 and Table 1, its data cover the time period 2013-2021 and are mostly related to three countries. The whole database contains 112 variables, but we select only a few that are relevant to the following two criteria: i) only variables with almost 80% of correct values are taken into account; ii) a stepwise regression approach is employed to exclude someone not significant in determining the default condition (significant at least at 90% p-values). Table 2 resumes and describes the variables involved in the whole analysis.

Country	n.	%
Estonia	110714	61,9%
Spain	26270	14,7%
Finland	41955	23,4%
	<b>178939</b>	<b>100%</b>

**Table 1.** Borrowers country of origin

The table contains the borrowers' country of origin of loans recorded in Bondor's database.





**Figure 1.** Number of loans by year in the sample

Variable	Description
<i>Edu</i>	1 Primary education 2 Basic education 3 Vocational education 4 Secondary education 5 Higher education
<i>Amount</i>	Amount the borrower received on the Primary Market. We apply log-function
<i>loanduration</i>	Current loan duration in months
<i>debttoincome</i>	Ratio of borrower's monthly gross income that goes toward paying loans
<i>Interest</i>	Maximum interest rate accepted in the loan application
<i>Age</i>	The age of the borrower when signing the loan application
<i>existingliabilities</i>	Borrower's number of existing liabilities
<i>Gender</i>	1 Male 2 Woman
<i>log(incometotal)</i>	Borrower's total income. We apply log-function
<i>maritalstatus</i>	1 Married 2 Cohabitant 3 Single 4 Divorced 5 Widow
<i>Woman</i>	Dummy variables: 1 Woman 0 Male
<i>married</i>	Dummy variables:1 Married 0 other marital status
<i>nomarried</i>	Dummy variables:0 Married 1 other marital status
<i>amountofpreviousloansbef</i>	Value of previous loans
<i>expectedloss</i>	Expected Loss calculated by the current Rating model

**Table 2 – Variables description**

Loan default conditions could be an example of a binary response model for categorical data. In our approach, we define loan status as a dependent variable in a model where the variables available in the Bondora database are exploited as predictors. We employ the well known logistic regression, which is also used in a wide variety of applications, including social science research, marketing, and financial applications. Also, in credit risk, Logit models are applied to estimate the probability of default of exposures. As predictors, we include the variables contained in Table 2.

Logistic regression is an application of a generalized linear model which is a useful tool to estimate the probability that an event occurs: in our case the event is a loan default. By using the logit link function, we apply a binary logistic model to the Bondora data.

The estimation is performed by Iterative Weighted Least Squares in the estimation, according to Davison (2003). The estimation function implies that the probability distribution is associated with an exponential family. The link function between dependent and independent variables is motivated by ease of interpretation of model parameters. Additionally, alternative models were fitted using the log-log and probit link functions and the consequential conclusions are similar.

We approach the multicollinearity problem by applying the Principal Component Analysis (PCA) to estimate new variables (the so-called “factor”). Following the approach by Lattin et. al (2003), with the aim of interpreting the Principal Components, we construct the factor loading matrix whose entries describe the correlation between the original variables and the new factors. In this framework, we use PCA to reduce the number of the variables and capture important features of loans.

## **Discussion**

We have emphasized the key findings from our elaboration in this section. We categorize our results by loan characteristics, the role that education plays in defaulting, and the impact that borrowers' social status has. At the end of the section, we add the factorial analysis for the robustness check.

### ***Features of loans***

The role of the loan purpose is captured in Table 3, where % represents the ratio between defaulted loans and total loans. Looking at columns 6 and 10 in Panel A, we find that Education and Health are more likely to default, especially among people with low education levels. Probabilities of default related to Vocational education are at the same level as the ones related to primary education. In general, higher education reduces the probability of default (Panel A). When we combine the loan purpose and the gender status, Health is correlated with a high probability of default (Panel B). However, from these findings we capture the gender effect, even if we consider each use of the loan: it means that women borrowers reduce loan default (Table 3 - Panel B). On the other hand, the defaulted loan analysis concerning the marital status and use of loans contained in Panel C, is less clear than the data collected in other panels.

### ***The role of the education***

Education is an ordinal variable, according to Table 2, with values: 1 Primary education; 2 Basic education; 3 Vocational education; 4 Secondary education; 5 Higher education. These values also can be ordered from the lowest to the highest; however, it needs to be clarified that the difference between categories is not equally spaced. A high degree of education reduces both ex-ante and ex-post probability of default (Tables 5 and 4). As reported in Table 4, Education could improve credit quality also if we disentangle the sample according to country of origin, except for Finland, where the negative coefficient is not significant. In providing P2P loans, the platform considers a high degree of study as a positive condition that improves the probability of default. In Table 5 the dependent variable refers to probability of default within a one-year horizon; it is a continuous bounded variable and not a categorical one. Therefore, we apply an Ordinary Least Square method for estimating coefficients. Bondora provides this variable, and we call it “ex-ante probability of default”.

As expected, the amount of the borrowed debt determines an increase in default, as well as the loan duration, and the effect of the interest rate. These variables coupled with the number of existing liabilities could describe an over-indebtedness condition of borrowers. In addition, the role of debt-to-income ratio, as an independent variable, supports the hypothesis of over-indebtedness.

In Tables 4 and 5, we use a dummy variable to capture the gender effect on the probability of default. *Ceteris paribus*, a female condition reduces the ex-post probability of default; even, when the platform estimates the ex-ante probability of default, the effect is positive, i.e., the gender gap produces positive effects when females borrow a loan.

### ***Social and marital status***

When we consider the interaction effect between marital and female status, by using dummy variables, it emerges as a better interpretation of the results (Table 6). If we consider the two different statuses, “married women” (Model 1) and “no married women” (Model 2), we find two contrary signs. Married women's condition determines a positive effect on the probability of default, while on the contrary, no-married women reduce the ex-post probability of default. Also, in Model 3, by excluding the gender variable, the interaction between women and married marital status determines a positive effect on the probability of default. In Model 5, we evaluate the interaction between education and women by considering married women, and we found that education coupled with female gender reduces the probability of default.

### ***PCA results***

We exclude from PCA dummy and multinomial variables. New variables represented by Principal Components (PCs) are resumed by *v*-variables. From communality analysis, we attribute the meaning to each PC. By using this approach, we solve the multicollinearity issue, by considering the orthogonality among PCs. Our findings from the PCA procedure confirm the results already described in the previous Section.

Eigenvectors in Table 7 suggest the PC's characteristics. V1 represents the perceived loan risk, since expected loss and interest are present in the positive and highest values. In Table 7, V1 shows a positive relationship with an ex-post probability of default, according to what we found in Table 5. V2 considers the borrower's indebtedness because it considers previous financial exposures: debt-to-income and the number of existing liabilities. Financial indebtedness (V2) is positively related to the probability of default, as shown in Table 8. The amount of loans and their duration, which are loan features (financial unsustainability), are characterized by V3, which is positively related to the probability of default. Borrowers' features are contained in V4, which is positively related to the probability of default. V5 is negatively related to the probability of default, as well as represents the financial soundness of the debtor. According to Panel B –Table 7, we choose only five PCs, which are those with eigenvalues bigger than 1.

First, the key role of education in determining the ex-post probability of default is confirmed by the three models. In addition, gender role is captured in Table 8, which confirms our previous results, even if we disentangle results for marital status (both Model 2 and 3).

*Panel A – Education and Use of loan*

	<b>Undefined</b>	<b>Loan consolidation</b>	<b>Real Estate</b>	<b>Home improvement</b>	<b>Business</b>	<b>Education</b>	<b>Travel</b>	<b>Vehicle</b>	<b>Other</b>	<b>Health</b>
<b>Primary education</b>	37.83%	58.54%	70.00%	66.67%	63.64%	77.78%	72.73%	52.94%	75.66%	78.95%
<b>Basic education</b>	57.51%	62.89%	60.17%	60.93%	59.38%	55.88%	53.94%	53.25%	64.58%	58.51%
<b>Vocational education</b>	36.40%	66.42%	62.59%	67.76%	67.48%	73.13%	66.67%	60.15%	69.10%	74.75%
<b>Secondary education</b>	34.10%	48.45%	43.58%	50.67%	46.43%	52.93%	47.83%	42.61%	50.78%	50.64%
<b>Higher education</b>	37.46%	45.71%	43.11%	50.09%	48.78%	55.66%	45.73%	44.10%	52.26%	54.48%

*Panel B– Gender and Use of loan*

	<b>Undefined</b>	<b>Loan consolidation</b>	<b>Real Estate</b>	<b>Home improvement</b>	<b>Business</b>	<b>Education</b>	<b>Travel</b>	<b>Vehicle</b>	<b>Other</b>	<b>Health</b>
<b>Male</b>	38.29%	53.17%	46.34%	56.55%	49.34%	56.70%	50.06%	47.60%	56.75%	64.05%
<b>Female</b>	23.95%	51.74%	45.55%	50.93%	50.48%	53.50%	47.21%	44.46%	53.90%	49.16%
<b>Undefined</b>	69.39%	77.43%	96.08%	85.61%	83.56%	82.27%	84.38%	84.68%	83.20%	84.44%

*Panel C – Marital status and Use of loan*

	<b>Loan consolidation</b>	<b>Real Estate</b>	<b>Home improvement</b>	<b>Business</b>	<b>Education</b>	<b>Travel</b>	<b>Vehicle</b>	<b>Other</b>	<b>Health</b>
<b>Married</b>	53.85%	48.89%	55.54%	52.36%	58.70%	51.88%	46.21%	57.65%	54.50%
<b>Cohabitant</b>	49.11%	48.25%	49.85%	42.38%	42.75%	42.24%	41.75%	47.64%	55.31%
<b>Single</b>	55.83%	47.46%	60.97%	53.72%	61.70%	57.05%	55.56%	62.12%	61.65%
<b>Divorced</b>	56.28%	54.05%	56.12%	59.01%	68.82%	49.67%	46.61%	63.04%	58.06%
<b>Widow</b>	53.66%	52.63%	49.08%	72.22%	66.67%	73.91%	31.25%	62.69%	57.14%

**Table 3** Loan’s characteristics

	All countries	EE	ES	FI
<i>c</i>	-1.62***	0.516***	0.441***	-0.87***
<i>Education</i>	-0.02***	-0.04***	-0.07***	-0.00
<i>log(amount)</i>	0.091***	0.016***	0.119***	0.109***
<i>Loanduration</i>	0.005***	0.004***	0.004***	0.002***
<i>Debttoincome</i>	0.001***	0.005***	-0.00	-0.00***
<i>Interest</i>	0.020***	0.008***	0.004***	0.030***
<i>Age</i>	0.004***	-0.00***	0.002***	0.006***
<i>Existingliabilities</i>	0.021***	0.012***	-0.01***	0.062***
<i>Gender</i>	-0.21***	-0.36***	-0.03*	-0.20***
<i>log(incometotal)</i>	-0.00	-0.12***	-0.13***	-0.16***
<i>Maritalstatus</i>	0.145***	0.115***	0.091***	0.245***

**Table 4** Determinants of probability of default

The table contains determinants of loan default. Dependent variable: dummy 1 defaulted 0 otherwise. Method: ML - Binary Logit (Quadratic hill climbing). Columns consider borrowers' countries of origin. All countries: Estonia, Spain, Finland. EE: Estonia. ES: Spain. FI: Finland. \* Significant at 10 percent; \*\* Significant at 5 percent; \*\*\* Significant at 1 percent. Number of observations: 166991, 110635, 14106, 41954.

**Table 5** Determinants of ex-ante probability of default

	All countries	EE	ES	FI
<i>c</i>	0.044***	0.134***	0.433***	0.039***
<i>Education</i>	-0.00***	0.001***	-0.00***	0.003***
<i>log(amount)</i>	0.003***	0.001***	-0.02***	-0.00
<i>Loanduration</i>	0.000***	0.000***	-0.00***	0.000***
<i>debttoincome</i>	-0.00***	-0.00***	0.000***	-0.00***
<i>Interest</i>	0.004***	0.007***	0.002***	0.006***
<i>Age</i>	-0.00***	-0.00***	-0.00*	-0.00***
<i>existingliabilities</i>	0.002***	0.002***	0.001***	0.008***
<i>Gender</i>	-0.02***	-0.03***	-0.01***	-0.02***
<i>log(incometotal)</i>	0.005***	-0.01***	0.001	-0.00***
<i>maritalstatus</i>	0.001***	-0.00***	0.014***	-0.01***

Table contains determinants of Probability of Default, refers to a loan's probability of default within one-year horizon as a dependent variable. Method: ordinary least square. Columns consider borrowers' countries of origin. All countries: Estonia, Spain, Finland. EE: Estonia. ES: Spain. FI: Finland. \* Significant at 10 percent; \*\* Significant at 5 percent; \*\*\* Significant at 1 percent. Number of observations: 166991, 110635, 1

	Model 1	Model 2	Model 3	Model 4	Model 5
<i>C</i>	-1.54***	-1.81***	-1.81***	-1.76***	-1.71***
<i>Education</i>	-0.02***	-0.02***	-0.02***	-0.02***	
<i>log(amount)</i>	0.074***	0.074***	0.078***	0.074***	0.073***
<i>Loanduration</i>	0.003***	0.003***	0.003***	0.003***	0.004***
<i>Debttoincome</i>	0.011***	0.011***	0.010***	0.011***	0.011***
<i>interest</i>	0.019***	0.019***	0.019***	0.019***	0.019***
<i>Age</i>	0.003***	0.003***	0.003***	0.003***	0.003***
<i>Existingliabilities</i>	0.016***	0.016***	0.018***	0.016***	0.015***
<i>Gender</i>	-0.22***	0.048*			-0.13***
<i>woman*married</i>	0.273***		0.136***		0.275***
<i>woman*nomarried</i>		-0.27***		-0.22***	
<i>education*woman</i>					-0.02***

**Table 6** Determinants of default. Dummy interactions model.

The table contains determinants of loan default. Dependent variable: dummy 1 defaulted 0 otherwise. Method: ML - Binary Logit (Quadratic hill climbing). \* Significant at 10 percent; \*\* Significant at 5 percent; \*\*\* Significant at 1 percent. Number of observations: 166991, 110635, 14106, 41954.

**Panel A - Eigenvectors**

	V1	V2	V3	V4	V5
<i>Age</i>	-0.10221	-0.10928	0.184489	0.536572	0.261091
<i>Amount</i>	0.037283	-0.27965	0.662354	-0.01668	-0.21631
<i>Amountofpreviousloansbef</i>	-0.42665	0.119556	-0.08765	0.4624	0.097224
<i>Debttoincome</i>	0.078064	0.581849	0.368909	-0.1172	-0.28374
<i>Existingliabilities</i>	-0.32292	0.545979	0.149736	0.300873	-0.10321
<i>Expectedloss</i>	0.590227	0.200225	0.000846	0.290499	0.013096
<i>Freecash</i>	0.06474	0.26206	0.339797	-0.34297	0.380822
<i>Incometotal</i>	0.017181	-0.00247	0.234474	-0.03503	0.774158
<i>Interest</i>	0.582313	0.118249	-0.13044	0.331133	0.053682
<i>Loanduration</i>	0.061808	-0.369	0.416653	0.284333	-0.19243

*Panel B - Eigenvalues*

Number	Value	Difference	Proportion	Cumulative Value	Cumulative Proportion
1	2.095819	0.604932	0.2096	2.095819	0.2096
2	1.490887	0.264248	0.1491	3.586706	0.3587
3	1.226639	0.12935	0.1227	4.813345	0.4813
4	1.097289	0.047571	0.1097	5.910633	0.5911
5	1.049718	0.118975	0.105	6.960351	0.696
6	0.930743	0.078424	0.0931	7.891094	0.7891
7	0.852318	0.185204	0.0852	8.743412	0.8743
8	0.667114	0.279501	0.0667	9.410526	0.9411
9	0.387613	0.185752	0.0388	9.798139	0.9798
10	0.201861	---	0.0202	10	1

**7 PCA Eigenvectors and eigenvalues.**

The table contains both Eigenvectors (Panel A) and Eigenvalues (Panel) of PCA. In estimating PC, we use ordinary correlation

	Model 1	Model 2	Model 3
C	0.204***	0.224***	-0.05
V1	0.820***	0.820***	0.820***
V2	0.365***	0.355***	0.355***
V3	0.207***	0.199***	0.199***
V4	0.308***	0.312***	0.312***
V5	-0.04***	-0.04***	-0.04***
GENDER	-0.36***	-0.38***	-0.10***
EDUCATION	-0.02***	-0.03***	-0.03***
MARRIED*WOMAN		0.280***	
NOMARRIED*WOMAN			-0.28***

**Table 8** Determinants of the probability of default with PC.

The table contains determinants of loan default. Dependent variable: dummy 1 defaulted 0 otherwise. Method: ML - Binary Logit (Quadratic hill climbing). Columns consider borrowers' countries of origin. All countries: Estonia, Spain, Finland. EE: Estonia. ES: Spain. FI: Finland. \* Significant at 10 percent; \*\* Significant at 5 percent; \*\*\* Significant at 1 percent. Number of observations: 166991, 110635, 14106, 41954.

**Conclusion**

Access to financial services is one of fintech's effects that promotes and allows financial inclusion across the world. However, the access and the usage of financial services are only two of many features that must be analysed, especially in a context where increasing speed and accessibility coexist so that, permitting more tailored financial services can be scaled. One



of the most important aspects, coupled with access and usage, is the quality of financial services. Measures to protect consumers to prevent over-indebtedness are often insufficient, and financial education plays a key role. Financial inclusion, as well as other fintech effects, can democratize access to finance, but they must consider social aspects, such as gender conditions, that are different among countries.

The amount of excess debt, the length and interest rate of the loan, and consequently the loan's financial characteristics are some of the factors that determine the debtor's risk of bankruptcy. Even the reason for taking out a loan, such as the need for medical care, can be used to predict its likelihood of default.

In our study, we also take into account the roles that gender and educational attainment play in predicting loan default circumstances.

Borrowers benefit from education not only in loan selection, but also in avoiding choosing too high an interest rate or accumulating debt that makes their financial situation unsustainable. In our study, the role of education is closely linked to some aspects of financial literacy, because we consider not only the borrower's level of education but also the ability to understand the role of financial variables and their effects on the household budget.

These last aspects are captured by the rate of interest, the amount of previous debt, and the destination of loans. Not only in the OECD (Organisation for Economic Co-operation & Development), but also at national levels, there are many initiatives to promote financial literacy. The large diffusion of P2P, and the possibility for people to quickly borrow money, need robust programs to enhance financial literacy and favourite inclusion.

From gender results, we show that female gender plays an important and positive contribution in reducing the ex-post probability of default. In terms of policy implications, there is room for improvement of financial literacy and inclusion in considering married women. In these cases, there are different possible explanations. First, often married women can delegate financial matters to their partner or other family members. Therefore, when they apply for a loan, there is both a lack of experience and financial awareness. Second, married women, in some cases, are used as formal loan applicants due to the financial unreliability of partners. These explanations could be corroborated by results obtained with no married women. The reduction in default probability is strictly connected with the absence of partners. For these reasons, programs aimed at financial literacy must operate better within families, inside which women often live in a condition of less financial knowledge.

For these reasons, P2P lending platforms and other forms of social lending must consider not only women's condition but also marital status and promote financial literacy among female borrowers. There are several

limitations to our studies. First, we study only the Bondora database that analyses three countries and does not cover all pandemic outbreak periods. As a future purpose, we aim at extending our analysis to other platforms, studying other countries and economic areas. Second, a more detailed analysis of women's conditions is needed, to support our explanation of the opposite effect of the marital status variable. With specific surveys, one could better analyse the condition of women in the social structures they live in.

### **Conflicts of Interests**

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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ESJ Social Sciences

## The Effect of National Public Debt on Economic Growth in Kenya

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### Abstract

Kenya being a lower middle income country compliments tax revenue with government borrowing to finance its national development plans. In an attempt to add to available domestic resources, successive governments have relied on both domestic and external debt to finance the country's budget. In light of the growing concerns over Kenya's national public debt sustainability and its potential effect on the economy, this study aimed at analyzing the effect of national public debt on economic growth in Kenya. Specifically, the study sought to establish the effect of domestic debt and external debt on Kenya's economic growth. Gross Domestic Product was used as the proxy for economic growth while domestic debt, external debt, inflation rate, exchange rate, capital stock and labor force are the explanatory variables. The study used time series data for the period 1990 to 2019. The data was extracted from the World development indicators and this data was harmonized with data extracted from the data bases of the Kenya National Bureau of Statistics. The data was analyzed through the Ordinary Least Square (OLS) regression technique. The findings indicated that domestic debt had an insignificant negative effect on Kenyan economy while external debt has insignificant positive effect. The study concluded that internal debt



has deleterious while external debt has positive effect on growth.

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**Keywords:** Public debt, sustainable debt, and economic development

## **Introduction**

The subject of public debt remains a topic of great interest today, as much as it has been, even in the past. In almost every economy globally, whether developed or developing, authorities are in a race to control rising fiscal deficits, with most resorting to public borrowing to plug the fiscal gaps. This in turn has seen public debt levels of many countries rising to worrying levels leading to calls for governments' action to reduce public debt (Aybarç, 2019). However, the question of how financing via public borrowing influences a country's economic growth remains hotly contested among economic policymakers (Lee & Ng, 2015). Those who support massive government expenditure via deficits-spending financed through government borrowing, domestically or externally, cite their huge benefits economically. However, that opposition points to the serious problems that excessive public debts may have on the economy (Woo & Kumar, 2015).

The amounts of publicly borrowed funds constitute a significant of modern-day governments' funding. Public debt portfolio is a mix of financing resources that are often complicated and if not properly managed can put into jeopardy a country's financial-wellbeing and resource base (Ndieupa, 2018). Public authorities have a responsibility of ensuring that the country's public debt level and how it expands remain within manageable levels and that its associated repayment conditions can be met within a country's affordable means (Ahlborn & Schweickert, 2018). A country has to ensure that it has sound strategies of controlling its debt levels. Sound public debt policies and measures can assist public authorities to keep an eye on their economies' exposure to a wide range of financial risks (Égert, 2015).

As observed by Fincke and Greiner (2015), most of the financial-related problems faced by nations and that have arisen in the course of history have been occasioned by poorly managed public debts, especially with respect to the costs of the loans and inappropriate maturing durations as well as holding huge inadequately funded contingent liabilities. It's therefore argued that for nations to reduce their susceptibility to the dangers of excessive public debts holdings including disrupting the growth of the private sector, public authorities must exercise prudence in managing the public debts levels by instituting necessary policies and strategies that keep the public's debt-level at manageable levels (Chudik et al., 2017). Given the increasing growing concern on Kenya's public debt levels and a stagnating economy, and in light of the mixed findings on the public debt and economic growth nexus, the current research sought to offer insights into how Kenya's international

public debt affects the country's economic growth. It is hoped that the findings of this study inform the review of existing national fiscal policies.

Managing a country's public debt level constitutes an important task within its general aggregate economic context as it affects its level of public spending and directly affects how stable the economy is (Teles & Mussolini, 2014). The Government of Kenya has a considerable portfolio of public debt dating back to the 1960s. This debt has been acquired from international circles (multilaterally, bilaterally, and commercially) as well as from internal sources via the issuance of treasury bills and bonds, respectively. The mix and magnitude of Kenya's public debt have grown and varied over time as the country seeks to acquire funds that are within its ability to repay, and which carry lesser risks so as to fund its capital for the attainment of its long-run developmental agenda (Mupunga & Le Roux, 2016). Furthermore, the risks attributed to expense of Kenya's debt mix have been evolving during the same period, as a result of efforts to diversify its avenues for funds, especially in light of decreases in funds concessional acquired as the country has been reclassified into the lower-middle-income status and considering dynamics in international funds markets (Makau, Njuru & Ocharo, 2018).

For the period from Kenya's independence to 1970, the proportion of the country's debts sourced externally was at 21% of its total national output while debts sourced internally represented 7.2% making the country's debt to total national output average 28.1% over the period. Debts acquired in these early periods were all sourced externally as existing market circumstances were not favorable for sourcing the funds internally. For the period 1971 to 1980, relative to the GDP, debts sourced externally were at 15.3% while loans acquired internally were at 13% making the average loans to total national output ratio average 28.3% in that period. The 1970s-80s period was marked by global oil crises and booming coffee returns. There was a remarkable upsurge in Kenya's debt levels for the period 1981 - 1990. Relative to the country's total national output, loans acquired externally accounted for 35.8% while loans acquired internally represented 15.5% with the country's aggregate loans to total national output ratio averaging 51.3% with the remarkable growth in Kenya's debt to GDP ratio during this period being the result of 1982's political crisis as well as Structural Adjustment Programme (SAPs) suggested by the Breton Woods institutions, IMF and World Bank from 1988. There were further increases in 1991 - 2002 with loans acquired externally and internally respectively accounting for 44.8% and 16% of Kenya's gross national output - a time marked by instabilities in the economy attributable to the multiparty electoral processes of 1992 and 2002, Kenya's currency seriously depreciating against global major currencies occasioning sharp rise in the country's nominal debt, the multimillion Goldenberg-Scandal



and financial help from donor nations being canceled (International Energy Agency, 2017).

An improved aggregate economic context in the 2003-2007 interval shows Kenya's debt position improved with the gross loans to total national output ratio averaging 49% with loans acquired externally accounting for 27.7% while those acquired internally accounting for 21.3% of the country's gross national output. This was helped by low levels of interest rates and inflation, an exchange rate that was stable, and controlled budgetary gaps. In the succeeding interval of 2008-2019, the country's gross loans ratio relative to the total national output has been at an average of 49% with monies borrowed internally accounting for 26.5% of gross national output while funds borrowed externally account for about 22.5% of the nation's total national output. What is evident is that the country's debt position has been on an upward trajectory from 2008 to date, driven largely by increased spending on government-owned/led capital projects, the consequences of the electoral chaos of the 2007 polls as well as the crisis of the global financial system (IEA, 2017).

A closer look at the pattern of the country's debt situation depicts that in the immediate intervals after independence from 1963-1977, the ratio of gross public loans to total national output remained somewhat stable and thereafter it fluctuated. From the analysis, it is evident that, in the years after independence, funds borrowed externally formed the main constituent of the country's total public debt. This however began to change in the 1990s with the component of funds borrowed internally beginning to rise with this continuing all the way to 2013 in which funds borrowed by the government accounted for 55.5% of the country's total public debt. This aligned with suggestions made in the 2010 Medium-Term Debt Management Strategy (MTMDS) which advocated for increasing the component of funds borrowed internally in the country's debt portfolio. The logic behind minimization of being exposed to foreign exchange rate risks that come with borrowings is made externally by increasing the maturing duration/term of funds borrowed locally while supporting greater growth of the local financial sector and markets (Wanjuki, 2016).

That Kenya's level of public borrowings has consistently remained higher than anticipated by the MTDMS, is a clear illustration of non-adherence to set fiscal rules. Of concern is that the increase in Kenya's acquired loans is likely to remain in the intermediate interval due to significant infrastructural and energy-related capital-intensive projects envisioned under Vision 2030. A key characteristic of the rising debt levels has been raising Kenya's debt ceiling (Makau et al., 2018). What is required to reign on the country's ever-rising debt position is for the authorities to enhance revenue mobilization to meet government spending requirements for a prolonged time period. A

country's aggregate economic context and its fiscal policy constitute important elements for reigning on a nation's public debt menace, though, in the case of Kenya, this seems not to be working, largely because of indiscipline in adhering to existing public-debt management policies (Gicheru & Nasieku, 2016).

To guide decisions on acquiring public borrowings and managing the country's fiscal gaps, Kenya has been implementing the Medium-Term Debt-Management Strategy since 2009. In addition, to reduce the challenges and risks that come with public debt, a Debt Policy and Borrowing Framework, or simply 'the Debt Policy' has been developed. Its main aim is to make sure that the country meets its financing requirements and repayment conditions cost-effectively in the intermediate and long-run intervals while maintaining reasonable levels of risk. The debt policy's subsidiary aims being to further develop the local financial sector and markets while ensuring that the burden and gain of the country's debts are equitably shared by generations of today and later (Wanjuki, 2016).

Kenya's debt policy acts as a guiding framework for managing the country's public loans level and guides the treasury in debt-issuing processes, managing the country's debt mix, and adhering to set laws and regulations on how loans are contracted and managed. The policy hoped to lead to improved decision-making allowing policymakers to better articulate policy objectives, providing better clarity in relation to regulations of loan acquisition modalities, and offering a clear illustration of the government's commitment to long-run planning financially and capital-wise (Putunoi & Mutuku, 2013). Mwaniki (2016) observes that the policy places emphasis on adhering to laid down guidelines and regulations on managing the national loans by concerned parties. This is a good signal to the credit/debt rating agencies and capital markets that the authorities are serious about keeping the country's debt at sustainable levels and hence that the country is unlikely to fail on its loan-repayment obligations.

According to the International Monetary Fund, the guiding fiscal rule is that a country's gross debts/loans shouldn't surpass half the value of its current total national output. This is the same threshold set in the EAC Monetary Union Protocol. Further, the EAC protocol places limits regarding fiscal deficits at 3% of total national output, at 8% for general price increases, and four and a half months of imports as the lowest reserve maintained (Assenmacher & Krogstrup, 2018). Kenya's public debt has tremendously grown over the recent past largely due to investments in capital projects with a view of addressing a growing budget deficit and providing impetus to the economy's growth. Though much of Kenya's debts have concessional conditions, the country's much recent loans from commercial sources have considerable repaying requirements in immediate periods, 2017-2024.

Further, the proportion of the country's total debts to its total national output has significantly grown touching 56.4% in 2018, and remains on the incline though it's expected to fall to about 54 – 55% in 2017–19 and then decrease in subsequent periods. The IMF proposes that for low-resource nations, their national public debts to GDP ratio shouldn't pass 40% (Assenmacher & Krogstrup, 2018).

Central Banks of Kenya's and World Bank's data indicate that Kenya's annual economic growth rate has fluctuated from 4.2% in 1990 to lows of - 0.8% and 0.2% in 1992 and 2008 respectively to highs of 6.9% in 2007 and 8.4% in 2010 to the most recent of 6.3% in 2018. However, over the same period, Kenya's national public debt has consistently risen to currently stand at Kshs. 5.3 trillion in 2019, with the percentage of public debt to nominal GDP increasing from 134.8% in 1990 to 56.4% in 2018 (Central Bank of Kenya, 2019). Of greater concern is that, most recently, the National Assembly of Kenya approved the raising of the national public debt ceiling from 50% of the country's GDP to a fixed value of 9 trillion Kenya Shillings to enable the government to meet its financing requirements in the near-term (Ngugi, 2019). This might end up escalating the level of the country's indebtedness to detrimental levels.

Over the years, Kenya has experienced rapid growth in its national public debt. To manage the repayment of maturing loan obligations as well as financing of government expenditures, the government has turned to debt rescheduling and the use of costly short-term financing. Whereas the acquired debt funds are hoped to help improve Kenya's economic growth through infrastructure development, there is growing concern that the high level of public debt in Kenya may occasion a debt crisis injuring Kenya's prosperity prospects economically and financially (Ngugi, 2019). There is growing concern that the national public debt has reached critical levels and questions over Kenya's ability to meet its repayment obligations are beginning to gather momentum (Wanjuki, 2016). In addition, there are concerns that high public debt risks lowering the country's spending on capital projects and social programs as larger parts of the government's revenues go to debt repayment (Ombuya, 2017).

World over, the level of a country's national public debt is instrumental to its development economically, yet little emphasis has been accorded to this subject. The traditional sources of countries' expansion economically have been its human and physical capital, advancing technologies, competence and productivity of its workforce, and their openness to international trade, and though these variables remain important, a country's public debt position is now regarded as also being key to its economic growth (Lartey et al., 2018).

Public debt in Kenya has been on an increasing trajectory, especially in the past decade. The Central Bank of Kenya has cautioned that continued escalation of public debt could adversely affect the country's economy as growing debt negatively affects the level of investments attributable to high-interest rates. The CBK has also warned that excessive domestic borrowing risks crowding out the private sector. Increased level of country indebtedness also reduces the country's creditworthiness hence scaring off potential investors and foreign lenders (CBK, 2018). There has also been a concern that Kenya's public debt has reached critical levels putting at risk the attainment of crucial goals of the nation including expansion of the economy by 10% annually and a stable fiscal policy as envisioned in the country's Vision 2030 (Makau et al., 2018).

Despite the extensive literature available on this study subject, the findings as to how a country's borrowings affect its economic growth remain inconclusive, with some studies reporting a positive relationship (Egbetunde, 2012; Antony & Broer, 2015); others reported a negative relationship (Tchereni et al., 2013; Yusuf & Said, 2018) and others reporting no significant association between these two variables (Owusu-Nantwi & Erickson, 2016; Hussain et al., 2015). This highlights the need for more research on this study subject.

## **Literature review**

### **Theoretical Literature Review**

#### **The Debt Overhang Theory**

This theory emanated from the work of Stewart C. Myers in 1977 as he looked at how financing via debts affected the value of entities in corporate finance. Myers examined the reluctance by corporates to maximally utilize borrowed funds to cater to their business operations despite the use of debt being advantageous in regards to benefits as costs of borrowing are treated as allowable expenses. His explanation for this behavior was that accumulating borrowed funds adversely impacted the firms' abilities to make future investment decisions optimally (Kadiu, 2015). The argument is that loan accumulation makes businesses to be reluctant in engaging in ventures/undertakings with future potential positive yields given that part of realized gain would accrue to creditors/lenders in form of loan repayments (Chudik et al., 2017). The theory, as ably described by Joy and Panda (2019), thus describes a case where the rising public debt adversely affects individuals' decisions on investing.

The theory, therefore, espouses that a country's public-debt level with its associated/accompanying repayment costs impacts a country's expansion economically as it discourages investing by private individuals as well as alters a nation's public spending plan (Jibran et al., 2016). Ahlborn and

Schweickert (2018) explained that debt overhang is evident in instances where a nation's burden of servicing its borrowed funds is high to the extent that a significant proportion of its immediate revenues goes to its lenders hence creating a disincentivizing investment. The theory thus hypothesizes that any future possibility of the burden of externally sourced funds exceeding a country's repayment ability implies that accruing loans-servicing costs are likely to disincentivize any additional local and foreign investments in turn harming economic growth (Woo & Kumar, 2015). Servicing of loans may adversely impact a country's growth by reducing public revenues that could instead have been allocated to developing needed infrastructural developments and advancing human capital (Owusu-Nantwi & Erickson, 2016). With debt overhang, there are fears among potential investors that any increased investments or growth in productive capacities is likely to be met with increased taxation to pay up national debts, making them reluctant to invest further currently for future gains (Woo & Kumar, 2015).

The theory's applicable to the Kenyan situation and hence is relevant to the current study. This is in light of the appreciation that as Kenya's public debt continues to grow to unprecedented levels, "debt overhang" will become "a leading cause of distortion in turn slowing down Kenya's economic growth". Kenya's growth economically would slow down because the country's economy could lose its attractiveness among potential investors. There's also the risk that the loan repayments could exhaust a significant part of Kenya's public financial resources making it harder for the country to get back to growth (Gicheru & Nasieku, 2016; Wanjuki, 2016). As suggested by Lee and Ng (2015) as well as by Saifuddin (2016), even with governments' institution of structural adjustment programs high public debt adverse effects would still be experienced by many via a country's deteriorating economic outlook. The adverse effects of "debt overhang" are largely seen via decreased investments not just in physical capital but as well in human and technological areas which also have huge implications on a country's expansion economically.

### **The Crowding-Out Effect Theory**

A leading theory in economics, espoused by Buiter in 1976 in his paper "crowding out and the effectiveness of fiscal policy". The theory espouses the view that growing/expanding expenditure in the public sector leads to a decrease in private sector expenditures. It, therefore, suggests an increment in government expenditures suppresses expenditures by the private sector (Balcerzak & Rogalska, 2014). As pointed out by Omitogun (2018), the perspective regarding the existence of crowding-out and its attendant problems to the economy lies at the heart of free markets economists' postulation that a large public sector indeed results in poor utilization of

available resources. Crowding-out effect of government spending on non-public investing can be direct or indirect. Upsurges in interest rates and general price levels constitute the indirect form of crowding out while a decrease in the private sector's available physical resources denotes the direct form of crowding out (Kandil, 2017). When the government takes up substantial loans amounts, this in turn occasions increases in real interest rates, adversely impacting an economy's lending capacity, thereby disincentivizing enterprises from investing in long-term capital projects that would have been done with borrowed funds given the increases in interest rates, which makes viable projects that would have been funded by borrowed monies extremely expensive, therefore unprofitable (Fincke & Greiner, 2015). The argument is that as the cost of borrowing escalates, there's a reduction in interest-sensitive spending like investments and consumption, and in this way, and public sector's borrowing "crowds out" investment (Mwakalila, 2020).

The crowding-out effects concept assumes that rising public debt utilizes a larger section of a nation's savings. The competition for limited loanable funds between the government and private investors occasions an increase in the cost of money in turn adversely affecting levels of private investment as individual borrowers are crowded out due to their inability to afford the cost of available limited funds. Limited available funds cause interest rates to significantly rise to a level that individual entities and persons are not able to compete with the government and/or its agencies leading to their crowding out from the funds market. The economy, in turn, suffers due to not being able to adequately provide the resources needed to spur investments (Checherita & Rother, 2010). Maghyreh, Omet, and Kalaji (2005) argue that crowding out happens if governments over-participate in capital markets to a point in which it adversely impacts other players in terms of access to financial resources. The chains of events are excessive borrowing by the government leading to scarcity of available financing. This leads to a rise in interest rates which occasions a cut in funds borrowed privately which in itself lowers/impedes private investment (Ostry et al., 2015).

Qureshi and Ali (2010) argued that the macroeconomic environment determines the extent of the crowding out effect. The economic situation controls the extent of crowding out. Any increase in government expenditure with the economy at full production usually results in the upward movement of interest rates as public and private entities compete for limited resources accessible for application in investment, which occasions cut in private investment and consumption. However, increases in government spending when the economy is operating under full production don't lead to competition with the private sector, hence no crowding out effect. Hence, in sum, changing public expenditure patterns has the greatest effect on a country's economy when it's operating under full production (Égert, 2015). This theory is relevant



to the current study since increased levels of government domestic borrowing may lead to crowding out of the private sector in turn reducing levels of private investment in the economy which in turn adversely affects a country's economic growth.

### **Keynesian Theory**

According to the Keynesian theory formulated in 1936, a country's expansion economically relies on the level of investments and savings therein. Keynes's argument is that low rates of savings in a country have a direct impact on the investment levels in that nation in turn adversely impacting its level of economic growth (Al-Zeaud, 2014). The theory states certain decisions and actions carried out together by a significant proportion of private persons and enterprises may distort total macroeconomic results, leading the economy to operate under full production, hence a sub-optimal growth rate. As such, proponents of this theory support active interventions by authorities to address problems in the economy occasioned by business cycles (Lartey et al., 2018). The argument by Keynes was that the Great Depression's troubles would be resolved via stimulation of the economy by combining 2 approaches, these being lowering the level of interest rates and increasing the level of government spending in the economy. Increased government investment in the economy spurs increased expenditures by the general public, which is accompanied by further increases in production and investment, resulting in a series of increased economic activities whose effects end up being larger than the initial government's investment (Moussa & Shawawreh, 2017).

This theory thus holds that low resource settings marked by inadequate levels of capital stocks at the start are likely to experience higher growth rates as they begin at a point where they can accumulate large, introduced capital goods. This theory thus emphasizes the need for nations to enhance their investments and savings levels, as higher savings levels boost the level of investments, which in turn drives economic growth. However, owing to inadequate internal revenue mobilization in low- and middle-income countries coupled with the desire to improve their economies' growth prospects, the need for acquiring public debt is inevitable (Jibrán et al., 2016). The theory is very much relevant to current research since debt-servicing costs arising from huge public debts imply fewer resources available for investing in the economy in turn adversely affecting economic growth.

### **Ricardo's Modern Theory on Public Debt**

This theory was postulated by David Ricardo in the early 1820s. The outlook of Ricardo's theory on public debt from the traditionalists' viewpoint is that the theory does not lend support to governments' uptake of loans. Classicals, including David Ricardo, in their support of the free market forces,

were of the view that governments shouldn't interfere with the economy (Bilan, 2016). Hence, this theory's central premise is that expenditures by public authorities are unproductive and that the private sector tends to utilize resources more effectively than the public sector. To Ricardo and their compatriots, the accumulation of public debt impairs private capital by taking resources away from productive uses, negatively impacting capital-stock accumulation, in turn slowing an economy's growth (Tsoulfidis, 2017).

Ricardo's policy recommendations on the subject of national borrowings were, first, at no point should public authorities fund their spending through public debts, and second, immediate actions should be initiated to retire current public debts. Ricardo's opposition to using taxation to service public debt was based primarily on his own economic arguments. Ricardo and proponents of the theory worried that high taxes charged for the aim of servicing government loans could scare away potential investments in the economy, hence their recommendation for immediate debt resettlement/retirement. In addition, gains arising from capital growth made Ricardo advocate for public spending financed through taxes rather than one financed through public loans (Churchman, 2001).

Therefore, to achieve maximum growth in capital stocks, the theory argues that public spending should be kept at the lowest possible level. The theory holds the proposition that funding government spending using taxes is far better than doing so using borrowed funds as it helps reduce government inefficiency and wastage. Ricardo's argument was financing government activities via acquired loan funds postpones the tax burden allowing public authorities to conceal the real magnitude of their expenditure from the public. Thus, public debt tends to spur unwarranted extra spending by the government unproductively which harms capital growth.

This theory is applicable to the Kenyan case given Ricardo's valuable reflections on tax burden allocation impacts that arise from the public sector's borrowed funds. As espoused by Ricardo, the issue of public debt in Kenya should be addressed based on how it impacts the country's capital stock as well as on its effect on the country's rate of economic growth which reflects the country's future. In the prism of this theory, Kenya's high public borrowing may harm capital by not giving a true picture of the government's profligacy and distorting individuals' own level of personal wealth. Consequently, managing the country's national debts in a better way and keeping public spending at sustainable levels now and in future periods will help enhance the country's economic prospects significantly. The theory is in support of the current research as currently, ongoing arguments regarding Kenya's debt policy and its influence on the country's economic growth reflect similar arguments made in the times of Ricardo.



## **Empirical Review**

This section reviews empirical studies done relating to the effect of public funds borrowed domestically and externally on countries' economic growth. The countries focused on in this review were selected on the basis of having an economic system and public debt structure that was close and comparable to the Kenyan situation at the time the empirical studies were done. Many of the studies reviewed were also conducted in developing countries as is the case of Kenya. The countries reviewed public debt position was characterized by high debt service, growing debt ratios, and declining debt repayment capacities, at the time of the reviews.

Rabia and Kamran (2012) did a study that looked at how public loans sourced internally and externally influenced Pakistan's economic growth. The effects of the public loans sourced internally and externally on the nation's expansion economically covered the duration of 1980 - 2010 and were estimated through the application of the Ordinary-Least-Squares (OLS) method. The suitability of the study data was gauged using various time-series-related diagnostics. According to the results, public debts sourced domestically were found to negatively relate to the country's economic growth. Similarly, externally sourced public loans were also found to negatively relate to the country's economic growth. However, the adverse effects of funds borrowed from outside the country on the country's expansion economically were greater than those of the loans acquired internally.

Ali and Mustafa (2010) undertook a study whose intention was to explore how public debt impacted Pakistan's economic growth between 1970 and 2010. To achieve this, the researchers developed a function that measured the country's total national output against several proxies that included spending levels on education, formation of capital, available workforce, and financing acquired externally. This research evaluated the effects of these variables both in the short run and in the long term. The main finding of the review was that financing acquired externally significantly and in a negative way influenced Pakistan's expansion economically both in the intermediate and long-term intervals. However, the immediate and long-term influence of growth in human capital as well as growth in capital formation was found to positively impact the country's total national output.

Maghyereh et al. (2005) undertook a study that evaluated how national debt affected a country's expansion in an economic sense. The study was based on Jordanian data and employed an endogenous-growth model. Study results showed that national loans acquired externally positively related to the nation's economic growth when the externally borrowed funds were below a given threshold, the said threshold being at 53% of the country's total national output. Beyond the threshold, growth in amounts of funds borrowed externally was seen to negatively correlate with the nation's total economic level.

Similarly, in an investigation performed by Sheikh, Faridi, and Tariq (2010) in Pakistan covering the period 1972 - 2009, funds borrowed domestically were found to negatively impact the country's economic growth.

In an empirical study based on select advanced and emerging economies for an interval stretching between 1970 and 2007, Kumar and Woo (2010) sought to find out how elevated levels of national debts affected the countries' expansion economically in the long term. The variables were public debt, population size, investment, and government size as independent variables while economic growth was the dependent variable. A time series regression model was applied to data analysis. The study's findings suggested that public debt is negatively related to nations' growth economically, with the adverse effects of national debts being more pronounced among emerging economies compared to their effects on the economies of developed countries. Similar observations were made in the study by Qureshi and Ali (2010) who utilized the time series OLS regression model to assess the effects of public debt on Pakistan's economy between 1981 and 2008. The study established that public debt significantly and negatively impacted the country's economy.

Kibui (2009) did a study that explored how national loan funds sourced externally impacted Kenya's level of investment and its economy's growth for the duration between 1970 and 2007. In the research, time series data for the said period was utilized touching on the varied study variables. It was established that Kenya's public debt has been over/beyond set critical levels since 1982. Kenya's ratio of debt servicing was found to constitute a large part of the country's total national output. It was further established that the level of investing done publicly is negatively related to the country's level of public loans sourced externally as well as with its ratio for debt-servicing. The study suggested that debt relief could be utilized to help improve the level of investments in the economy and to stir the country's economic growth. The study suggested that there was a need for government action in areas of poverty eradication, and economic growth-supportive initiatives such as export promotion, an investment-friendly operating context, and working to improve investor confidence in the economy's prospects.

Adofu and Abula (2010) undertook a study to investigate the implications of national loan funds sourced domestically on the expansion of Nigeria's economy. The study covered the duration from 1986 to 2005. The study reported that loan funds sourced domestically had a negative effect on the national economic status of the country, hence required to be demotivated. The study argued that expansion of the country's tax net should be the way forward. A similar study was executed in Kenya by Maana et al. (2008) who also sought to know how national loans acquired domestically interacted with the country's economy using data from 1996 to 2007. It was established that

the government's sourcing of public loans internally did not occasion crowding out of local investors largely due to the advanced state of the country's financial markets. According to the study, loans acquired domestically by the government seemed to positively correlate with the growth of the economy, albeit insignificantly.

An empirical study performed by Abbas and Christensen (2010) looked at what was the optimum level of national loans sourced domestically in low-resource settings that included countries in the Sub-Saharan African region as well as those representing emerging economies for the duration 1975 to 2004. The study established that national loans sourced internally and maintained moderately did significantly impact the said countries' level of expansion economically in a positive way. However, higher levels of public debts were found to adversely affect these countries' level of expansion in an economic sense. Cholifihani (2008) studied the association of national loan funds and the level of total national output within the Indonesian economy through the application of the models that utilized time series data between 1980 and 2005. The proxies for the adopted model included the nation's total national output as the outcome variable run against servicing of loans, capital stock, workforce as well as human capital. The study showed the country was experiencing a "debt overhang problem" as its loan position seemed to adversely impact its expansion economically in the long term.

Umaru, Hamidu, and Musa (2013) did a study on the levels of Nigeria's development economically in the context of national loans sourced internally as well as externally, for the duration running 1970 - 2010. Results of the study revealed that national loans acquired domestically and externally had a negative association with the country's actual total national output albeit not in a significant way. Likewise, Shabbir (2009) looked at how loan funds acquired externally affected the expansion economically of select countries from Africa. Twenty-four countries were included for review and data on their loan accounts and GDP levels between 1976 and 2003 was analyzed. Panel data regression models were used to estimate the link between the variables of the study. Results showed that public loans externally sourced seemed to negatively relate to the country's level of economic growth.

An Indian study on how loan funds acquired by the country's government related to the country's economy showed that monies borrowed externally positively impacted the country's expansion economically though up to a certain extent. The study however noted that as the proportion of externally borrowed funds rose, this had negative effects on the country's level of activity economically, and particularly on the level of individual firms' investing, as more and more public resources became committed to resettling the foreign debts. It was also observed that high servicing costs of foreign debts reduced government expenditure on crucial social services such as

health and education. As such high costs associated with foreign debt repayments slowed down the country's developing potential in turn hindering the growth of its economy (Bal & Rath, 2014).

On their part, Ajayi and Oke (2012) investigated the implications of government borrowing from foreign sources on the expansion of Nigeria's developing economy. The results clearly demonstrated that national loans acquired from external sources indeed hurt the country as they negatively impacted the level of the country's total national output in turn decreasing income per capita for the country's residents. The consequences of high public debt sourced externally in Nigeria included loss of value for the country's currency, workers' go-slows, and regular strikes as well as a deteriorating education system and physical infrastructure. Huge external loan payments, therefore, impeded the growth of that nation's economy. According to the study, public debts especially when inappropriately utilized drain public resources which adversely impacts a country's ability to expand economically. Reinhart and Rogoff (2010) worked on an empirical investigation regarding the effects of financial resources acquired via borrowing at a national level with the economic growth in 44 nations over a 100-years period. Results provided evidence of the effects that rising public debt levels were seen to negatively influence the levels at which both advanced as well as emerging nations were able to expand their economies. This became more pronounced as the countries' foreign-sourced national loans reached 60% of their total national output. In a similar way, Putunoi and Mutuku (2013) evaluated how domestically acquired public debts affected Kenya's level of growth economically between 2000 and 2010. Through the application of various econometric tests, they observed that government borrowings acquired domestically played an influential role in helping Kenya's economy to grow. The research found evidence of the effect that domestically acquired loans positively and significantly influenced the growth of the economy.

Wanjuki (2016) also at how Kenya's public debt impacted its ability to grow economically between 1980 and 2013. He used variables such as total debt service, inflation, the actual cost of borrowing, and real exchange rate using data from the CBK. He found that there was a negative association between repayments of loans, level of loans acquired domestically, cost of borrowing, inflation, and the lagged PIGR and Kenya's expansion economically. They however found a positive relationship between funds externally sourced, the actual rate of exchange and level of investing and the country's level of economic growth. On their part, Gicheru and Nasieku (2016) evaluated public debts' effects locally covering 1996 to 2015, utilizing external debt, domestic debts and productive debts as the main variables. The study established a statically significant adverse association between debts sourced externally and the nation's economic growth, as well as a significant

positive correlation existing between internal public and productive debts with economic growth.

## Methodology

### Theoretical Framework

Theories on public debt and economic growth posit that debt can contribute positively or negatively to economic growth. Debt overhang theory indicates that debt has positive effects on economic growth and if it exceeds a certain threshold, it turns negative. The GDP growth, for example, is influenced by productivity which is affected by capital and labor.

It is argued that the choice of the indicators to represent the outcome as well as the predictor variables of a given research varies largely depending on individual scholars' assessment of what elements best represent the phenomenon under study. Kadiu (2015), for example, insisted that the level of real total national output is influenced by funds borrowed externally, costs of servicing borrowed funds, the value of goods sold outside the country, general price level, capital stock, and human productivity level. Rabia and Kamran (2012), on the other hand, shared the view that a country's total national output level varies according to gross internal consumption, investments, aggregate externally borrowed funds, costs of borrowed funds as well as aggregate internally borrowed funds. Therefore, it follows that any time a researcher wants to analyze the growth of a nation or nations, chooses the variables deemed to best to represent the phenomenon. Reinhart and Rogoff (2010), for example, suggested the following model depict the relationship between economic growth and its determiners.

$$\gamma = \alpha + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_n x_n + \varepsilon \quad (1)$$

In which,  $\gamma$  is the proxy of the level of economic growth while  $x_1, \dots, x_n$  represents indicators of possible predictor elements which depend on particular research.

The model (1) above was modified to include selected national public debt proxies to achieve the objectives of the study.

### Empirical Model Specification

Applying Reinhart and Rogoff (2010) suggestion on economic growth representation model, the current research modeled total national output as being influenced by funds externally borrowed, funds internally borrowed, settlement of the loans, general price level, exchange rate, stock of capital and labor-force. This relationship was represented in function form as stipulated below.

$$GDP_t = f(ED_t, DD_t, Inf_t, EXR_t, CS_t, LF_t) \quad (2)$$

Where, GDP is Gross domestic product as percentage change annually; ED – External debt in gross funds externally sourced (in Kshs. billions), DD - Domestic debt gross funds domestically sourced (in Kshs. billions); inf - Inflation rate expressed as annual percentage change in Consumer Price Index(CPI); EXR - Exchange rate measured as Kshs - US dollar exchange rate , CS - Capital stock measured as gross fixed capital formation (in Kshs. billions); and LF - Labor force measured as gross workforce in a country; and . Linear specification of model (2) above was stated as follows in terms of logarithmic.

$$\ln GDP_t = \alpha_0 + \alpha_1 \ln ED_t + \alpha_2 \ln DD_t + \alpha_3 \ln Inf_t + \alpha_4 \ln EXR_t + \alpha_5 \ln CS_t + \alpha_5 \ln LF_t + \varepsilon_t \quad (3)$$

The time series data was analyzed through the Ordinary Least Square (OLS) regression technique. However before estimation, the data were subjected to rigorous econometric tests. This research applied secondary annual time series data running from 1990 - 2019. The data was extracted from the World Development Indicators and Kenya National Bureau of Statistics database.

## **Emperical findings and discussion or results**

### **Descriptive Statistics and diagnostic tests**

LnGDP had a mean of 3.187986 and its standard deviation is 0.7837565. Its minimum value is 2.054979 while the maximum value is 4.575846. Overall, LnDD had the highest mean value of 7.079243 amongst the variables expressed in logarithm form while EXR has the highest value of 72.59213 amongst the variables not expressed in their logarithm form.

After conducting the unit root test using the ADF test, all variables except inflation were integrated into order one, I (1). Therefore, the variables that were stationary after the first difference was differenced once to avoid spurious regression because this study adopted the OLS model for estimation. Multicollinearity tests indicated that all the variables had a mean VIF of 1.78, indicating the absence of multicollinearity.

## OLS model results

**Table 1.** OLS results

	<b>OLS Model</b>
D1. lnED	0.0193259 (0.0959553 )
D1.lnDD	-0.0039602 (0.0171081)
D1.lnCS	0.304114*** (0.0761024)
D1.lnLF	2.134865*** (0.7489918)
D1.EXR	-0.0108671*** (0.0021086)
D1.Inf	-0.0014624 (0.0010905)
Constant	0.0211942 (0.0253241)
Obs	29
R-squared	0.9165
F(6, 22)	40.25
Prob > F	0.0000

**Standard errors in parentheses \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$**

In table 1, the probability of the F-statistic is highly significant indicating that this model is suitable. Also, a measure of goodness of fit which is denoted by R2 is 0.9165. This indicates that model is well fitted because 91.65% of disparities of the dependent variable can be explained by independent variables used in this study. LnCS, LnLF, and EXR are statistically significant at all levels of significance while other variables, which are LnED, LnDD, and INF, are statistically insignificant. The coefficient of LnED is 0.0193259 and that of LnDD is -0.0039602. This means that increasing ED by US \$ 1 billion increases the GDP by US \$ 0.0193259 billion while increasing DD by Kshs. 1 billion reduces the GDP by US \$ 0.0039602, ceteris paribus. Similarly, the values of the coefficients of LnCS, LnLF, EXR and Inf are 0.304114, 2.134865, -0.0108671, and -0.0014624, respectively. This implies that increasing CS by US \$ 1 billion increases GDP by US \$ 0.304114 billion while increasing LF by US \$ 1 billion increases GDP by US



\$ 2.134865 billion, other variables being constant. On the other hand, EXR and Inf coefficients are -0.0108671 and -0.0014624 respectively, implying that increasing them by 1% reduces GDP by 1.08671%, and 0.14624% respectively, *ceteris paribus*.

The results for OLS regression indicate that external debt does not have a significant effect on GDP. Its coefficient was found to be positive and statistically insignificant meaning that it affects Kenyan economic growth positively. This indicates that borrowing from outside the country is favorable in Kenya. However, its insignificant effect means that these debts are not generating enough returns to enable them to cover the cost of borrowing. It can also be argued that there is much wastage either in consumption or corruption of the borrowed funds because of these insignificant effect results. However, its positive effect indicates that at least a proportion of these borrowed funds from external sources are utilized in funding ventures that are generating some income. These results agree with that of Maghyereh et al. (2005) whose findings indicate that externally sourced funds in Jordan have a positive effect on its economy. Also, research work carried out in the Kenyan context by Gicheru and Nasieku (2016) and Wanjuki (2016) indicates that externally borrowed finances exert a significant positive effect on its economic expansion. However, these results contradict the findings of various researchers who found borrowing from other nations had adverse effects on the economic growth in nations where research was conducted. For example, Ali and Mustafa (2010) and Rabia and Kamran (2012) findings in Pakistan show that external debt negatively affects its economic growth. Another study carried out in Nigeria by Umaru, Hamidu, and Musa (2013) indicates that borrowed funds from other countries have insignificant negative effects on the Nigerian economy. Also, Shabbir (2009) did conduct a study in 24 African economies and realized that external debt exerted a negative effect on the economic growth of these countries.

The coefficient of domestic debt is negative and statistically insignificant. This implies that domestic debt has a negative effect on GDP. This shows that there is too much borrowing internally in Kenya. Hefty domestic borrowings increase pressure on the interest rate and so on investments (Ongeri, 2021). Thus, making bank lending rates shot up. In effect, the cost of borrowing escalates hence lowering private sector investment and, in the end, slowing economic growth (Ongeri, 2021). These results are in line with the crowding out effect theory that indicates when a country results in massive borrowing internally, then this leaves little resources for private sector borrowing hence causing liquidity constraint in the country leading to the crowding out effect on private sector investment. The results agree with several works carried out by various researchers in different countries facing different economic situations. To begin with, research work



by Sheikh, Faridi, and Tariq (2010) and Rabia and Kamran (2012) in Pakistan yielded similar results to the current study that borrowing internally exerts a negative impact on the economy. Adofu and Abula (2010) and Umaru, Hamidu, and Musa (2013) research, on the other hand, found an insignificant negative effect of domestic debt on the Nigerian economy. Wanjuki (2016) findings in Kenya indicate that domestic debt negatively affects its economy. In the same breadth, these results are opposite to the findings of Maana et al. (2008), Mutuku (2013), and Gicheru and Nasieku (2016) in Kenya who indicated that internal borrowings positively influence economic growth. Also, these results refute Abbas and Christensen (2010) whose findings indicate a positive effect of internal borrowings in SSA and other emerging economies.

### **Conclusion**

This research work was geared toward establishing the effect of public debt on economic growth in Kenya. It narrowed down to investigating the effect of domestic debt and external debt on economic growth in Kenya. The first objective of this research work was to examine how internal debt affects Kenya's economic growth. The results indicate that internal debt negatively affects economic advancement in Kenya. More so, the negative effects are insignificant. The second objective was to assess how external debt affects Kenya's economic growth. The results show that borrowings from abroad have an insignificant positive effect on Kenyan economic growth. The study concludes that internal public debt influences economic growth negatively in Kenya. On the other hand, External public debt has an insignificant positive effect on economic growth in Kenya.

### **Policy Implications**

It was discovered that borrowing internally in Kenya poses an adverse effect on its economic growth. The findings also indicated that borrowing externally poses a positive effect on economic expansion. These effects, however, were insignificant. This begs for government to explore various avenues of funding its budget deficit which can be done through improvement of the current revenue base other than resulting in massive internal or external borrowings. There is a need for government to diversify its sources of revenue to scale down borrowings from within and outside the country. To reap the benefits of funds borrowed from other countries, the Kenyan government needs to ensure that the debt management systems are accurate. This can be done by incorporating information technology in debt management systems. The body mandated to manage public debt should be ran with utmost accountability and transparency. Also, the external debt should be utilized in

better ways and in development initiatives that would enhance future streams of national income.

This study has laid focus on the effects of public borrowing both domestically and externally. There is a need to ascertain the effects caused by servicing these domestic and external debts. Therefore, in future further studies ought to be carried out particularly focusing on domestic and external debt servicing. Also, these studies can incorporate domestic and external debt by the private sector.

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## L'édifice Filmique Russe: Laboratoire d'Un Autre Futur en Afrique

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### Résumé

Au tournant de la décennie 80, l'Afrique subsaharienne francophone a connu une période pendant laquelle, la production cinématographique locale inondait les petits écrans. Depuis deux décennies, ce constat n'est cependant plus actuel. Si la montée en puissance des productions de l'audiovisuel d'Afrique francophone est réelle, le secteur se caractérise tout autant par un environnement artistique concurrentiel. C'est dans ce cadre que des groupes étrangers, développent des programmes pour une diffusion principalement locale. Tous les genres et formats sont proposés, à l'instar du documentaire russe, la libération du Mali, diffusé sur la chaîne malienne M7 TV. Dans un marché audiovisuel croissant, les actions du groupe paramilitaire Wagner sont également mises en scène dans des films et des dessins animés. A partir d'une analyse des contenus médiatiques proposés par cette nouvelle industrie audiovisuelle, cet essai présente une réflexion épistémologique face à la percée de ces productions et la façon dont elles négocient leur place face aux goûts des téléspectateurs africains.

**Mots-clés:** Cinéma africain - Masha et Michka- géopolitique- film-softpower-Big data- légitimation



## **The Russian Films Set: Laboratory of Another Future in Africa**

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### **Abstract**

In the 1980s, French-speaking sub-Saharan Africa has known a period during which local film production flooded the television screens. For the past two decades, this observation is however no longer valid. If the rise of audiovisual productions in French-speaking Africa is real, the sector is also characterized by a competitive artistic environment. Within this framework, a couple of foreign groups have started to develop some programs mainly available for local distribution. All genres and formats are offered, such as the Russian documentary, the liberation of Mali, which has been broadcasted on the Malian channel M7 TV. In a growing audiovisual market, the actions of the paramilitary group Wagner are also featured in films and cartoons. From an analysis of the media contents offered by this new audiovisual industry, this essay presents an epistemological reflection on the success of these productions and the way they negotiate their place in relation to the tastes of African viewers.

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**Keywords:** African cinema- masha and michka - geopolitics- movie- soft power- Big data- legitimacy

### **Introduction**

Sur le continent africain, les productions audiovisuelles et cinématographiques des pays francophones connaissent une évolution qu'il serait intéressant d'analyser. Pour les genres cinématographiques par exemple, (Lelièvre, 2013 p. 146) note que l'engagement public fort des années 1970 a cédé la place depuis le début des années 1990 à un désengagement de la puissance publique sous la pression des partenaires internationaux. Ce constat s'observe également au niveau du secteur audiovisuel. En effet, (Tozzo, 2005 p. 14) relève que la télévision en Afrique francophone a diffusé pendant longtemps des séries peu chères, comme les téléromans par faute de moyens. Dans le même ordre d'idée, (Unesco, 2021 p. 224) précise que durant cette époque, la plupart des productions audiovisuelles étaient réalisées sans implications de la télévision publique avec des financements européens. Au fil du temps, cette situation a évolué avec une production locale soutenue et régulière de contenus. Comme raison à ce changement,



(Ekambo, 2017 p. 11) fait valoir le déploiement en cours de la TNT qui contribue à faire bouger les lignes. L'autre élément catalyseur qu'il faille prendre en compte est l'immense patrimoine culturel de l'Afrique et sa capacité à réinventer les histoires dans l'humour ou le paranormal. Dans le secteur du divertissement par exemple, les téléspectateurs africains peuvent dorénavant visionner de nombreuses productions locales qui répondent à leurs attentes.

Toutefois, les chaînes de télévision africaines continuent de recevoir des contenus via la coopération internationale. Il s'agit par exemple des programmes qui viennent de la France, l'Allemagne, des États-Unis, de la Chine ou de la Russie. De nos jours, ce modèle de partenariat perdure, mais il se réinvente sous de nouvelles formes. À titre d'exemple, Canalsat Afrique travaille à l'élaboration d'une offre télévisuelle avec Gulli Africa. Si les programmes et films d'animation de ce partenariat s'inspirent de Gulli, ils devront à minima contenir 25 % de productions africaines. Pour sa part, l'organisme public camerounais de radio-télévision, envisage de lancer un projet similaire.

Il s'agit d'une offre de chaîne jeunesse avec le soutien du groupe Lagardère dont le modèle économique pourrait être reproduit sur le continent.

Concernant la Russie, Sputnik a signé plusieurs accords de coopération avec des médias d'Afrique subsaharienne. En 2017, Sputnik a par exemple signé un accord de partenariat avec l'agence de presse publique sud-africaine SAnews. Un accord similaire a été conclu avec l'agence de presse publique marocaine en décembre 2018. La même année, Moscou a signé un autre accord avec le gouvernement de la République Démocratique du Congo afin d'établir des liens entre les agences de presse publiques des deux pays. Un autre accord a également été conclu entre Sputnik et la Radio-Télévision Nationale Congolaise.

Le contrat prévoit l'échange de contenus en anglais et en français, ainsi que la fourniture de programmes spécifiques pour la radio. Profitant de cet accord, la Russie a déclaré qu'elle fournirait une assistance technique à la RDC dans le but de soutenir sa transition vers le numérique. Au Congo-Brazzaville, Sputnik fournit également des programmes à une autre société de médias à savoir Africanews. Ce type de partenariat se base sur l'échange de contenus en anglais et en français, ainsi que la fourniture de programmes spécifiques pour la radio. Profitant de cet accord, la Russie a déclaré qu'elle fournirait une assistance technique à la RDC dans le but de soutenir sa transition vers le numérique. Au Congo-Brazzaville, Sputnik fournit également des programmes à une autre société de médias à savoir Africanews.

En mai 2019, le média RT a procédé à la signature d'un accord avec le radiodiffuseur d'État érythréen, Eri-TV. Ce partenariat vise à fournir une

formation aux journalistes et un soutien financier à la chaîne de télévision. La société russe TV Novosti, qui possède le groupe Russia Today, a par ailleurs fourni à Eri-TV les équipements techniques nécessaires à la diffusion de RT dans toute l'Érythrée. Eri-TV utilise également le contenu de RT en anglais et en arabe sur ses antennes. En dehors de ces partenariats multiples, la Russie tente également une incursion dans le secteur des films d'action et d'animation. Si les manières de promouvoir un film sont nombreuses, l'objectif de cette étude est de montrer que la publicité autour des films a un penchant direct pour les données issues de l'utilisation des réseaux sociaux . Associée au marketing, elle pourrait ainsi aider à examiner le type de contenu plébiscité par les spectateurs afin d'améliorer la stratégie de communication envers les clients. De nombreuses questions émergent à ce propos : ces données permettent-elles aux producteurs de prendre de meilleures décisions pour l'orientation d'un film ? Les algorithmes qui scrutent l'usage des réseaux sociaux , sont-ils des alliés de l'industrie cinématographique ? Si oui, dans quelles mesures ? L'hypothèse de ce travail est que c'est aux premiers stades de la production et au niveau des aspects commerciaux que l'exploitation des données issues des réseaux sociaux est entrain de transformer l'art cinématographique.

### **Méthodologie**

La méthodologie fait recours aux recherches bibliographiques, à l'observation ethnographique et à la réflexion épistémologique. L'épistémologie traite des questions relatives à la construction des savoirs. L'épistémologie se trouve partout où il y a matière à réflexion. On y recourt pour observer un phénomène, critiquer une idée, résumer un texte, sélectionner des références, structurer de l'information, se représenter un phénomène par une équation, etc. Se livrer à des considérations épistémologiques implique, ainsi, qu'on sonde ses propres rapports aux savoirs savants ou scientifiques, mais aussi ses propres rapports aux processus d'acquisition des connaissances. Par une telle exploration critique, il est ainsi possible de ne pas adhérer systématiquement et docilement aux savoirs scientifiques et disciplinaires; Dès lors, il apparaît judicieux de prendre plutôt en considération la logique de production de ces savoirs en s'avisant des retombées éthiques et pratiques de cette dernière.

### **La production de blockbusters à l'endroit du grand public**

En Centrafrique, le film Touriste, à été tourné au coeur de la capitale Bangui, à la manière d'un blockbuster américain. De prime abord, Touriste fait penser aux films de propagande réalisés par l'URSS durant la guerre froide sur le Viet-Nam ou sur l'Afghanistan. A cette époque, ce fut le cas en 1991 par exemple avec le film Afghan Breakdown. Cette production met en scène

les troupes soviétiques à la veille de leur retrait d'Afghanistan. Dans *Afghan Breakdown*, une attention particulière est accordée à la tragédie du peuple afghan, qui se retrouve au centre du conflit. Le film a été tourné conjointement par l'URSS et l'Italie.

Grâce à ce partenariat entre les deux pays, le rôle principal du film a été exécuté par le célèbre acteur italien Michele Placido. Il importe cependant de préciser que le choix de Michele Placido, ne relève pas du hasard. De fait, l'acteur italien était très populaire en Russie pour avoir joué le rôle du commissaire Cattani dans la série télévisée italienne *La Piovra*.

En dehors de *Afghan Breakdown*, on peut également faire allusion au film *Black Shark*. Dans cette production qui date de 1993, le puissant hélicoptère de combat soviétique Ka-50 *Black Shark* est mis en vedette. En Afghanistan, les hélicoptères de combat Ka-50 circulaient au-dessus des belligérants au moment où la guerre faisait rage. Si *Afghan Breakdown* a fait la promotion des hélicoptères de combat soviétique, le même procédé a été utilisé dans le film *Touriste*.

Dans *Black Shark*, de réels pilotes de combat et des unités des forces spéciales ont également pris part au tournage. De plus au lieu d'effets pyrotechniques, de vrais obus ont été utilisés. C'est dans un décor semblable que le film *Touriste* a été réalisé. Durant la projection de *Touriste*, on y décèle par exemple d'authentiques soldats centrafricains ainsi que du matériel militaire livré à Bangui en plein conflit. C'est le cas des hélicoptères ayant combattu les rebelles centrafricains de la Coalition des Patriotes pour le Changement.

Au-delà du recours aux équipements et matériels militaires, *Touriste* fait aussi la part belle à certains lieux bien connus des Centrafricains. C'est le cas par exemple de l'aéroport de Bangui M'Poko, du camp de Roux ou encore du camp militaire russe de Bérengo. Le synopsis de *Touriste* traite l'histoire d'un pays en guerre civile depuis 2013. Le film montre aussi comment la Centrafrique est soutenue par Moscou avec des instructeurs militaires qui entraînent les forces armées centrafricaines et qui assurent la garde rapprochée du président depuis 2018. *Touriste* relate des faits qui montrent par exemple que depuis la fin de l'opération française Sangaris en 2016, le pays végète dans la violence.

Cette situation a fini par pousser le pays, à faire appel à la Russie. Sur les réseaux sociaux, le partage du film a été amplifié afin d'atteindre un public large aussi bien en Afrique centrale que de l'ouest. Une analyse des médias sociaux montre par exemple un partage coordonné et rapide du film sur 310 pages et groupes Facebook dans des pays tels que le Cameroun, la Côte d'Ivoire, la RDC et le Congo-Brazzaville. Malgré le fait que le contenu de *Touriste* montre qu'il s'agit d'un film d'action, l'ambassade de Russie en Centrafrique le présente comme un documentaire. Cependant, au regard

des éléments de langage véhiculés par cette oeuvre (Portis, 2001) estime que certains spectateurs peuvent assimiler *Touriste* à un documentaire qui applique une stratégie fictionnelle à l'attention du grand public.

Quelques mois après la sortie de *Touriste*, un second long-métrage a été mis sur le marché. Bien que tourné en RCA, l'action du film *Granite* se déroule au Mozambique. Selon (Sukhankin, 2019), le regain d'intérêt de la Russie pour le Mozambique, est motivé par le secteur des hydrocarbures. De plus, (Sukhankin, 2019 p. 59), précise que depuis 2010, la Russie fait les yeux doux au Mozambique, après la découverte d'importants gisements de gaz dans le pays.

Depuis lors, des instructeurs du groupe Wagner aident l'armée mozambicaine au nord du Mozambique. Dans la région de Cabo Delgado par exemple, le sous-sol est riche en gaz naturel, mais les attaques djihadistes y sont plus fréquentes. Basé sur des événements réels, *Granite* met en lumière d'une part, le travail des paramilitaires russes et leur capacité à repousser les attaques de rebelles au Mozambique. D'autre part, *Granite* met également en lumière la capacité des para-militaires russes à s'unir avec leurs partenaires locaux pour contrecarrer les plans des rebelles.

En comparaison avec le Mozambique, (Reestorff, 2013 p. 28) souligne que la Centrafrique, où se déroule l'action de *Granite* est un pays dont le sous-sol est riche. Cependant (Reestorff, 2013) fait un autre constat. De fait, elle observe que même si la guerre qui déchire la Centrafrique a baissé en intensité depuis au fil du temps, des pans entiers du territoire continuent d'échapper au pouvoir central de Bangui. Pour sa part, (Bieri, 2013 p. 291) rappelle que dans ce pays, de nombreuses recherches ont permis de documenter le rôle des mines de diamants dans les luttes de pouvoir.

À l'instar des diamants, l'or est également un métal précieux qui permet aujourd'hui de financer des conflits dont les origines sont multiples. Au Mali par exemple, l'insécurité a généré une demande d'assistance auprès de la Russie. Cependant, la fourniture de cette assistance a aussi donné aux Russes une opportunité d'accès aux précieuses réserves minérales de ce pays d'Afrique de l'Ouest. Dans un contexte de mobilité accrue, d'importants flux d'or malien, les Russes tentent de légitimer leurs actions par le biais des médias locaux. Un documentaire exclusif a été ainsi diffusé sur les antennes de la chaîne malienne privée M7 TV.

Le documentaire essaye de convaincre les téléspectateurs que l'arrivée des paramilitaires russes au Mali est un événement salubre qui se juxtapose à la fin de l'opération militaire Barkhane. Au-delà des formes prises par l'argumentation qui sert de socle au récit, le documentaire permet d'une part de comprendre que la Russie envisage de poursuivre sa quête d'influence en Afrique de l'Ouest. D'autre part, l'analyse de ce film documentaire permet

également de comprendre que la Russie entend bien profiter des tensions entre Bamako et Paris pour s'implanter durablement au Mali.

Pour (Goble, 2021p. 49), ce mode opératoire permet à la Russie d'éviter une confrontation directe avec d'autres puissances en Afrique comme au temps de la guerre froide. Comme le soulignent aussi bien (Sukhankin, 2019 p. 39 & Ersozoglou, 2021p. 56), le déploiement de troupes paramilitaires russes au Mali, au Mozambique, au Soudan, en République centrafricaine et à Madagascar, s'est fait au détriment des unités antiterroristes françaises. Cette chronologie des faits permet par conséquent de confirmer ce choix stratégique de la Russie.

Sur un autre plan, les nouveaux partenariats que noue la Russie en Afrique seraient motivés par un désir de revanche. Si l'influence croissante de la Russie ne se dément pas en Afrique, la guerre en Ukraine et les sanctions infligées à Moscou ne sont pas sans conséquences non plus. Par ailleurs (Kachur, 2020 p. 28) note que Moscou tenait après l'effondrement de l'Union soviétique en 1991, à accéder aux marchés de l'UE et des États-Unis. Cependant, les choses ont changé après l'annexion de la Crimée par la Russie en 2014. Cette annexion a en effet entraîné des sanctions occidentales contre des oligarques Russes, sans oublier les secteurs clés de l'économie russe. Pour (Kachur, 2020 p. 30) la conjugaison de tous ces facteurs, pousse la Russie à chercher de solides alternatives en Afrique. Si le groupe Wagner avance si bien en Afrique, c'est parce que son action profite tout d'abord au Kremlin. En général, Wagner intervient en échange de concessions pétrolières ou de minerais garanties par des gouvernements, partenaires comme celui de la Centrafrique ou du Mali.

Or, ces pays sont parfois incapables de payer à temps leurs partenaires. Ce type de situation favorise toutes les combines et manipulations possibles. La situation d'enclavement qui caractérise ces deux pays se traduit par exemple par une faible monétarisation des systèmes économiques en milieu rural. De plus, ces deux pays souffrent par endroit du manque de voies de communication à l'intérieur de leur territoire, leurs économies locales étant faiblement industrialisées. Par ailleurs, ces deux pays dépendent fortement de l'extérieur en ce qui concerne les biens de consommation intermédiaire. Dès lors, le groupe Wagner est en mesure d'en profiter pour s'octroyer d'énormes bénéfices. Dans ce genre d'affaire, il ne faut pas oublier la rétrocession des commissions à des sociétés spécialisées qui gravitent dans l'orbite floue de Wagner.

Si cette situation peut favoriser à terme des montages financiers complexes, les professionnels du secteur de l'audiovisuel peuvent également tirer leur épingle du jeu. De fait, ces derniers ont rapidement compris que les médias de masse ont désormais du mal à trouver de nouvelles sources de revenus dans un environnement de plus en plus concurrentiel.

En effet, jusqu'à présent, le secteur de la télévision reposait sur un processus linéaire. Pour les médias engagés dans ce processus, il était important de recueillir des observations pour ensuite les transformer en information ou en divertissement. De nos jours, cette dynamique connaît des changements notables. Dans les faits, l'industrie de la télévision se focalise davantage sur la nature des rapports que les téléspectateurs ont vis-à-vis de certains programmes et flux. Il s'agit entre autres des séries télévisées, des émissions de télé-réalité, mais aussi des réseaux sociaux. Ce constat fait dire à (Hasebrink & Domeyer, 2012 p. 50) ; Hermida, Fletcher, Korell, Logan, 2012 p. 47) que toutes ces interactions permettent dorénavant au public de façonner de nouveaux répertoires médiatiques au travers de multiples interactions avec ces différents programmes et flux.

Selon (Day 2011 p. 35), l'utilité de pareils répertoires, réside dans le fait qu'ils permettent d'avoir une vue d'ensemble sur les comportements implicites des consommateurs, mais aussi d'anticiper ces comportements. Il s'agit donc d'un avantage dans le processus de décision de l'industrie afin qu'elle puisse répondre aux nouvelles attentes des téléspectateurs. Si les médias peuvent considérer qu'il s'agit d'une aubaine (Kosterich & Napoli, 2016 p. 24) entrevoient des menaces avec l'avènement de ces pratiques. Les deux auteurs alertent sur le fait que ce type de procédé ne conduise pas à une marchandisation de l'audience.

Dans de telles conditions, les téléspectateurs courent le risque de devenir une sorte de minerai humain capable de fournir de considérables ressources aussi bien à Wagner qu'à l'Etat Russe. Les enjeux autour de ce minerai humain sont importants, car ils sont susceptibles de propulser encore plus loin l'industrie de la télévision dans l'économie de marché capitaliste mondiale.

Or, bien que l'exploitation illégale des minerais du sous-sol africain soit dénoncée depuis longtemps, le commerce illégal de ces minerais continue et favorise toutes sortes de trafics. De l'avis de (Hardt & Negri 2001 p.71), il importe de mettre des garde-fous afin d'éviter des pratiques de servitudes autour de ce minerai humain qui court le risque d'être confisqué par des intérêts tiers.

L'importance de mettre en place des mesures d'encadrement est d'autant plus nécessaire, car d'après (Downes & Nunes, 2014 p. 38) cette situation favorise l'émergence de perspectives alléchantes pour l'industrie des médias. De plus, des études réalisées sur les nouveaux modes opératoires de l'industrie de la télévision révèlent comment les médias sont en mesure de créer de la valeur à partir d'un ensemble de données. Selon (Napoli, 2011 p. 25 ; Vidgen, 2014 p.62), la subtilité de ces modes opératoires, réside dans le fait qu'elle permet une combinaison des données avec des outils d'analyse puissants.



À terme, ces opérations visent à élaborer plus efficacement les offres publicitaires. Toutefois, elles sont également en mesure de recommander de nouveaux contenus aux téléspectateurs (Napoli 2011 p. 25; Vidgen 2014 p.62). Au vu des avantages escomptés (Couldry & Turow, 2014 p.33 ; Jennes, Piersen, & Van den Broek, 2014 p.42 ; Kosterich & Napoli, 2016 p.29) remarquent que l'industrie de la télévision crée de nouvelles opportunités qui sont susceptibles de renforcer les relations marchandes entre les diffuseurs, les publics et les annonceurs. Par le passé, ces liens ont certes toujours existé. Cependant il importe de souligner qu'ils étaient essentiellement basés sur des hypothèses. Depuis lors, les entreprises exploitent d'importantes données afin de comprendre les préférences et d'obtenir des informations détaillées sur les clients. En raison des avantages qui précèdent, l'analyse des données numériques devient peu à peu un choix stratégique pour diverses organisations médiatiques. Ces entreprises sont en mesure de créer un écosystème qui dépend entièrement des expériences des utilisateurs au détriment de la vision de ces derniers. De fait, les réglementations en matière de confidentialité n'arrivent pas toujours à suivre les développements technologiques rapides qui rendent cette pratique possible. A l'heure actuelle, il existe de nombreuses zones d'ombre et des doutes qui ne peuvent être résolus en se tournant vers la loi. Lors de la collecte de vastes quantités de données, les chances que des données confidentielles soient incluses dans ces jeux de données sont élevées. Cette situation est d'autant plus problématique, lorsque des entreprises telles que la BOA Mali, devienne la cible de pirates informatiques. Au début du mois de février 2023, la filiale malienne du géant bancaire marocain a été victime d'une attaque visant le clients de l'institution bancaire. Parmi les données subtilisées, on retrouve des contrats, des mails, des portefeuilles clients, mais surtout la liste des codes utilisateurs d'Agence Western Union sur toute l'étendue du territoire malien. Ce document revêt un caractère spécial car il contient l'ensemble des points de transferts ou de retraits d'argent mais surtout les identifiants de tous les agents de ces agences.

### **Une offre jeunesse pour séduire les enfants**

Selon (Lumbala, 2009 p. 148) la presse écrite, les revues et les magazines de bande dessinée ont servi de cadre d'éclosion pour de nombreux dessinateurs en Afrique francophone. Il importe de souligner qu'au départ, si le dessin en Afrique se concentrait sur des supports tels que la presse écrite, les revues et les magazines de bande dessinée, son utilisation s'est par la suite étendu aux médias visuels.

Pour les amateurs de cinéma d'animation, les premiers courts-métrages d'animation ont vu le jour dès les années 1930. À cette

époque, (Peghini, 2015) remarque une vitalité qui va de l’Afrique du Nord au sud du Sahara. En Egypte par exemple, (Peghini, 2015 p.162) recense des films d’animation produits par les frères Frankel qui s’inspirent des personnages de Walt Disney tels que Mickey Mouse. Quelques années plus tard en 1965 (Peghini, 2015 p.164) relève la diffusion du premier film d’animation produit au Niger. Cette oeuvre diffusée en 1965, est le fruit des efforts d’un homme à plusieurs casquettes. Conte-griot mais également réalisateur, le nigérien Moustapha Alassane a eu le mérite de produire une œuvre avant-gardiste qui a pour titre *La Mort de Gandji*. Ces dernières années, l’industrie du dessin animé en Afrique a continué d’évoluer et de réaliser des avancées louables. Malgré des débuts fortement marqués par des soucis de qualité et une faible visibilité, l’animation africaine fait preuve désormais d’une grande maturité. Au fil du temps, elle a acquis une expérience certaine tout en continuant sa mue afin de devenir une industrie créative à part entière. Ayant pris conscience de ce potentiel, la Russie a produit un film d’animation à destination de la jeunesse centrafricaine.

Le dessin-animé qui a pour titre *LionBear* met en scène un éléphant dans une ferme qui se trouve au cœur d’une région fertile de la Centrafrique. Dans cette ferme, l’éléphant envisage de jouir des récoltes de sa plantation, mais son plan tombe à l’eau. Très vite, l’éléphant se fait attaquer par un groupe de hyènes. Pour se défendre face à la meute qui l’attaque, il fera appel au lion. Dans le déroulement du film d’animation, le lion intervient comme protecteur des faibles, mais aussi en tant que garant de l’ordre social. Toutefois, le lion sera submergé à son tour par la puissance des hyènes.

Ne parvenant pas à venir en aide à l’éléphant, le lion n’aura d’autres choix que de solliciter l’ours. Depuis la taïga, l’ours répond à la sollicitation du lion, animé par l’esprit d’entraide. Les deux compères joignent leurs forces et parviendront à repousser les hyènes. Au final, l’ours parviendra à mettre en place des négociations entre tous les protagonistes du dessin animé afin de promouvoir le vivre-ensemble.

Afin de poursuivre sur cette lancée, les Russes envisagent de lancer une nouvelle chaîne en Centrafrique qui diffusera des dessins animés chaque matin. Avant la concrétisation de ce projet, plusieurs milliers des centrafricains ont assisté à la diffusion du dessin animé *Masha et Michka* dans le complexe sportif Barthélemy Boganda. L’événement a eu lieu le 25 décembre 2022, dans ce stade multi-sport, situé dans la capitale centrafricaine. Il convient toutefois de préciser que le tout premier épisode du dessin animé *Masha et Michka* a été mis en ligne sur YouTube en septembre 2014.

Au début de l’aventure, le film *Masha et Michka* a fait son apparition en 2009 sur les écrans de télévision en Russie. Librement inspiré à partir d’un conte de fées russe, le scénario relate l’histoire d’une fillette de trois ans



nommée Masha et de son meilleur ami. L'ami en question est un ours de cirque à la retraite. Masha est une petite fille espiègle et blonde portant un voile et un tablier, tandis que Michka est un ours, qui représente l'emblème du pays. Durant les Jeux olympiques d'été qui eurent lieu à Moscou en 1980, l'ours fut désigné comme la mascotte de cet événement international auquel des milliers d'athlètes ont participé.

Visionné plus de deux milliards de fois sur YouTube, la série animée Masha et Michka connaît un succès retentissant auprès des enfants du monde entier. En 2017, National Geographic rapportait que le film pour enfants était regardé dans presque toutes les régions du monde. À cette époque, la série animée avait déjà été traduite dans 35 langues différentes. Certains parents ont expliqué que leurs enfants ont tout d'abord commencé à écouter les chansons présentes dans la série animée. Selon les dires de certains parents, ces chansons sont si attractives que leurs enfants étaient capables de regarder la série animée Masha et Michka en permanence, tous les jours.

Pour d'autres parents par contre, leurs enfants ont de fil en aiguille fini par faire une fixation sur les contes et récits autour desquels s'articulent le dessin animé Masha et Michka. Les codes vestimentaires de la petite Masha jouent vraisemblablement un rôle séducteur dans certaines régions du monde. Dans le dessin animé, Masha porte en permanence un foulard traditionnel sur la tête. Ce détail vestimentaire semble faire le succès de la série au Moyen Orient mais aussi dans de nombreux pays arabes.

Les producteurs du dessin animé Masha et Michka sont ainsi parvenus à signer des contrats plutôt inattendus comme celui passé avec les Émirats Arabes Unis pour la diffusion de leur dessin animé. Par ailleurs, la série n'utilise pas de longs dialogues. Les créateurs ont pensé qu'en mettant l'accent sur l'action plutôt que sur les dialogues, ils auraient plus à gagner en se rapprochant du cinéma muet où tout est dans les gestes et dans les expressions visuelles.

Cette stratégie semble porter ses fruits, car le monde de Masha et Michka a donné naissance à de nombreux produits dérivés. Sur le marché, bon nombre de ces produits arborent l'image des personnages de la série. Il s'agit par exemple de produits alimentaires, de la papeterie, ou de jouets. Les créateurs de la série travaillent également à la création d'un réseau de musées interactifs.

Il reste cependant à voir si un projet muséographique issu de l'univers de la série Masha et Michka a des chances d'aboutir en Afrique. En effet, le paradigme de gestion des cultures matérielles suscite des nombreux appétits marchands. Par ailleurs, le contexte de restitution des biens en Afrique reste fortement marqué par une forte concurrence que se livrent divers pays depuis

que le gouvernement du Bénin a ouvert le dossier de la restitution d'œuvres volées durant la conquête coloniale.

## Résultat

Pour l'heure, le cinéma russe tente une percée afin de se frayer un chemin dans l'univers du divertissement africain. Toutefois, il semble que les russes ont tiré les leçons de l'échec de leur politique culturelle lors des échanges culturels précédents avec l'Afrique. De fait, ( Chomentowski, 2016 p. 12) note qu'au début des années 1960, malgré tout l'intérêt que les institutions soviétiques manifestent à l'égard de l'Afrique, un manque de préparation et une certaine anarchie caractérisent la politique de mise à disposition des films russes .

Cependant, l'usage du Big Data n'est qu'à ses débuts au sein de l'industrie du cinéma. Tirillée entre l'économie de marché et la volonté de s'afficher au sein des nouvelles puissances cinématographiques en Afrique , la Russie pourrait toutefois s'en servir dans un avenir proche au travers d'un appareil d'influence filmique qui est entrain de se mettre en place en Afrique.

Il s'agit d'une stratégie à plusieurs leviers en cours de déploiement. Cette dernière passe notamment par la sous-traitance médiatique, le financement de sites internet mais aussi par l'utilisation de film d'animation aux messages caricaturaux sur les réseaux sociaux

Pour étayer ses propos, ( Chomentowski, 2016 p. 13) rajoute par exemple que lors de la semaine du cinéma soviétique à Bamako en 1963, le représentant de la Sovexportfilm, une société en charge de la diffusion des films serait arrivé à Bamako alors que l'événement avait déjà commencé. Toujours selon ( Chomentowski, 2016 p. 11) , le matériel publicitaire n'aurait pas été suffisant et certaines affiches de films manquaient. Par ailleurs, ( Chomentowski, 2016 p. 14 ) révèle que les soviétiques se sont rendus à l'évidence que leurs films n'avaient pas les faveurs du public en Afrique. Depuis cette époque, beaucoup d'eau a coulé sous les ponts. Les films tels que *Touriste* et *Granit* à mi-chemin entre fiction, réalité et propagande intègrent de nombreux atouts stylistiques et esthétiques. Par ailleurs, ( Chow, 2020 p.13 ) indique que les nouvelles productions cinématographiques font leur apparition à un tournant particulier de l'industrie filmique. Selon ( Chow, 2020 p.14 ) , l'industrie filmique est dorénavant influencée par une idéologie qui prône le recours à des solutions technologiques afin de résoudre certains problèmes . Parmi ces problèmes on retrouve par exemple , les risques financiers concernant le choix de scènes filmiques ou le scénario d'un film. En général, la rédaction du scénario d'un film est une étape sensible, où le scénariste peut soit répondre à une commande précise ou raconter une histoire qui lui tient à coeur. Malgré l'expérience de certaine structure de production cinématographique, il s'agit d'un travail délicat. Ce travail est d'autant plus

sensible car il fait appel d'une part à l'irrationnel, notamment l'intuition du réalisateur et sa capacité à toucher le spectateur et générer des succès inattendus. D'autre part ce travail est également complexe car il nécessite aussi des notions objectives liées à l'expertise du réalisateur. C'est dans cet univers où, l'incertitude fait partie du jeu dans l'industrie du divertissement filmé, que l'on assiste à l'émergence de certaines pratiques. D'après (Chow, 2020 p.15), ces nouvelles pratiques combinent l'usage de intelligence artificielle et du big data. De plus, (Chow, 2020 p.16) énonce que ce solutionnisme technologique propose à l'industrie cinématographique, de lui fournir les préférences des spectateurs d'un territoire donné ainsi que les émotions qu'il serait préférable de susciter à travers un film en fonction de sa période de sortie.

### **Conclusion**

Ces dernières années, le groupe Wagner semble renoncer de plus en plus à la carte de la discrétion médiatique en Afrique. La notion de discrétion médiatique fait référence à une inertie face à une gamme diverse d'actions qui ont trait à des actes de sabotage ou de lutte informationnelle. Parmi ces actions, on retrouve par exemple les pratiques de désinformation ou encore les cyberattaques. Bien que le Mali et la Russie renforcent leurs relations, la direction générale des impôts du Mali a été victime par exemple d'une fuite de documents. Cette fuite initiée par des pirates informatiques russes concerne des documents en lien à la situation fiscale de plus de 312 000 contribuables maliens. En plein rapprochement diplomatique entre les deux pays, cet acte de piratage apparaît comme la manifestation la plus marquante de l'attrait de la Russie pour la création de valeur à partir d'un volume de données à forte valeur marchande. Dans le même temps, le modèle d'implantation de Wagner, que reflète en partie le concept d'entrepreneuriat d'influence permet pour sa part de mettre en lumière, un mode opératoire capable d'influencer le paysage médiatique et les perceptions sur le continent. Pour l'heure, ces tentatives se sont avérées plutôt efficaces en Afrique. Dans le brouillard qui caractérise l'affrontement armé que se livrent certains acteurs depuis les confins de l'Internet, il reste cependant à vérifier une information cardinale. En effet, le suspense demeure face à la capacité de la Russie de créer les meilleures armes afin de remporter cette guerre dont le champ semble, au premier chef, être celui de l'économie.

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## Hacia un Modelo de Medición del Desempeño Organizacional en las Micro y Pequeñas Empresas del Sector Manufacturero en México

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### Resumen

El objetivo fue proponer un modelo de medición de desempeño para las micro y pequeñas empresas del sector manufacturero de la ciudad de Chihuahua, México. El método de la investigación fue de naturaleza mixta, el diseño fue no experimental y transeccional, el muestreo fue no probabilístico. Se analizó la situación actual de las micro y pequeñas empresas del sector manufacturero en áreas de planeación estratégica, tecnologías de la información y comunicación, capacitación, productividad y rentabilidad. Los resultados arrojaron que las empresas no cuentan con los conocimientos necesarios para implementar mediciones del desempeño. La originalidad del trabajo es la propuesta de un modelo de medición del desempeño que represente cómo al medir el desempeño organizacional se propicia un mejor nivel de competitividad. Los hallazgos mostraron que las micro y pequeñas empresas consideran como indicador principal para evaluar el desempeño organizacional a la productividad, sin embargo, una variable importante fue medir el rendimiento concepto que la mayoría de las empresas desconocía y no lo lleva a cabo. Además que los beneficios generados al invertir en capacitación, no son medibles en las empresas. La principal limitación fue la localización de varias empresas.

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**Palabras clave:** Modelo, medición, desempeño, microempresa, manufacturera

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## **Towards a Model for Measuring Organizational Performance in Micro and Small Companies in the Manufacturing Sector in Mexico**

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### **Abstract**

The objective was to propose a performance measurement model for micro and small businesses in the manufacturing sector of Chihuahua City, Mexico. The research method was mixed in nature, the design was non-experimental and transactional, sampling was non-probabilistic. The current situation of micro and small enterprises in the manufacturing sector was analyzed in areas of strategic planning, information and communication technologies, training, productivity, and profitability. The findings showed that micro and small companies consider productivity as the main indicator to evaluate organizational performance, however, an important variable was measuring performance, a concept that most companies were unaware of and do not carry out. In addition to the benefits generated by investing in training, they are not measurable in companies. The main limitation was the location of several companies.

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**Keywords:** Model, measurement, performance, microenterprise, manufacturing

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### **Introducción**

Las organizaciones buscan estrategias para desarrollar y gestionar herramientas para alcanzar competitividad y apertura económica para sobresalir y tener éxito. Es de gran importancia la innovación como una herramienta que les permita lograr impacto en el éxito organizacional; esto conlleva al crecimiento económico a largo plazo (OECD, 2010).

Es de importancia medir aquello que es fundamental para mejorar. Por lo tanto, se debe establecer un sistema de medición del desempeño de la organización para determinar la fortaleza de la empresa, y con base en esta, se



dirijan los esfuerzos y acciones a tomar en los diferentes procesos (Gutiérrez, 2010).

De las entidades económicas, las Pequeñas y Medianas Empresas (PYMES) constituyen más del 95%. Estas empresas contribuyen en gran medida al Producto Interno Bruto (PIB) de la mayoría de los países del mundo, considerándoseles un detonante económico de las naciones, así mismo la creación constante de empleos (el 80% de los nuevos puestos) y la generación de innovaciones. Académicos, emprendedores, políticos y otros grupos interesados en el desarrollo de los países, consideran que entre mayor sea la proporción de las PYMES en una economía su flexibilidad será mayor para adaptarse a los cambios en el entorno (Filion, Cisneros, & Mejía, 2011).

A pesar de la importancia de las PYMES, existen diversas dificultades que limitan su desarrollo. Por lo anterior, es primordial identificar las debilidades y cómo afectan su competitividad. Los aspectos que dificultan el desarrollo de la micro empresa son la globalización de los mercados, los cambios tecnológicos, la gestión del conocimiento y del capital humano, así como la falta de captación de capitales (Martínez et al., 2008).

Los indicadores de demografía económica tienen diferentes comportamientos dependiendo el sector de actividad. En el sector manufacturero 7 de cada 10 negocios subsisten al primer año. Para los sectores comercio y servicios privados no financieros este indicador disminuye a 6 de cada 10 que ingresan a la actividad económica (INEGI 2015).

México se encuentra ubicado en el lugar 51 en el ranking del ICG (índice de competitividad global), de un total de 138 países según el Foro Económico Mundial (GOB.MX, 2017).

El país ya lleva una década que no mejora su competitividad a nivel mundial (número 48 en el 2008-2009); en algunos de los pilares clave de este modelo de medición, México se encuentra en el lugar 80 en cuanto a productividad, número 82 en cuanto a capacitación para el trabajo y número 73 en cuanto adopción de tecnologías (INCAE, 2017).

Las organizaciones se encuentran en un entorno en particular el cual le proporciona múltiples contextos que afectan tanto en su desempeño, en lo que produce, como en su funcionamiento (Nabli y Nugent, 1989). Una evaluación organizacional, es clave para comprender y explicar las fuerzas que ayudan a conformar el desempeño de las organizaciones (Scott, 1995).

Las grandes organizaciones además de medir los resultados financieros finales, miden otros aspectos de un conjunto diversificado de competencias y valores. La proporción entre las medidas financieras y no financieras permite tener una mejor visión del desempeño de la compañía y ayuda a los administradores alcanzar las metas estratégicas claves (Daft, 2000).

La evolución de las unidades económicas del sector manufacturero en el periodo de 2008 a 2013 mostró un crecimiento porcentual de 12.1% siendo



los establecimientos micro los que contribuyeron en términos absolutos con el mayor número. Por el contrario, se observa un decremento en el número de personas ocupadas en este tipo de establecimientos. En cuanto a los establecimientos pequeños (de 11 a 50 personas), estos presentaron una disminución tanto en el número de establecimientos como del personal ocupado, al registrar un decremento de (-) 8.5% y (-) 4.5%, respectivamente. En cuanto a los establecimientos medianos y grandes, se observan incrementos en el número de unidades de 4.5 y 9.7%, respectivamente; mientras que, en el personal ocupado, el incremento fue de 6.7% en las unidades medianas y 17.4% en las grandes (INEGI, 2016).

Las micros y pequeñas empresas del sector manufacturero de la ciudad de Chihuahua no conocen los factores que influyen en el desempeño organizacional y tampoco identifican los criterios de cómo medirlos. La presente investigación tuvo como objetivo general proponer un modelo de medición de desempeño para la microempresa y pequeña, para el logro de éste objetivo se realizó una investigación bibliográfica para identificar las teorías o modelos para sustentar el modelo propuesto, también se realizó una investigación de campo para conocer la situación actual de los negocios, con los resultados obtenidos se hizo una investigación analítica sintética para ir construyendo el modelo propuesto y se sometió a una validación por el método Delphi con expertos en el área, teniendo como resultado la validación del mismo.

### **Marco Teórico**

Neely (2002) señala que el desempeño organizacional se puede concebir como el nivel de lo logrado por una empresa, a través del procesamiento y análisis de la información con el objetivo de apoyar la toma de decisiones.

Administrar el desempeño de una empresa consiste, ante todo, en fijarse objetivos realizables pero ambiciosos, que deben concordar con las orientaciones estratégicas de la empresa (Filion, Cisneros, & Mejía, 2011). Carmona (2012), define al sistema de medición del desempeño como “un conjunto de métricas que permiten cuantificar la eficacia y la eficiencia de las actividades y procesos” y comenta que en las últimas décadas estos sistemas han evolucionado, y se orientan a tomar en cuenta medidas no solamente económicas, por la motivación de la necesidad de conocer el desempeño respecto a todos los grupos de interés y a la estrategia.

Al medir el desempeño contra los estándares, cuando sea posible, debe hacerse de forma anticipada para descubrir las desviaciones antes de que ocurran y prevenir mediante acciones apropiadas.

El desarrollo de las Tecnologías de la Información (TI) facilita en gran medida el control organizacional a un costo relativamente bajo. El modelo

sistémico de administración señala que, para llevar a cabo las funciones gerenciales y vincular a la organización con el ambiente externo, se requiere de la comunicación; ésta y el Sistema de Información de Gestión (SIG) son el enlace que hace posible la administración (Koontz, Weihrich, & Cannice, 2012). En la Tabla 1 se muestran las diferentes teorías utilizadas para el modelo propuesto.

**Tabla 1.** Resumen de teorías utilizadas para el modelo propuesto

<p>Quinn y Rohrbaugh</p>	<p>1983</p>	<p>La eficiencia organizacional tiene tres ejes:</p> <ol style="list-style-type: none"> <li>1. Enfoque interno y externo                             <ul style="list-style-type: none"> <li>– Modelos de procesos internos</li> <li>– Modelo de sistema abierto</li> <li>– Modelo racional</li> <li>– Modelo de las relaciones humanas</li> </ul> </li> <li>2. Estructura organizacional</li> <li>3. La relacionada con los medios y fines organizacionales</li> </ol>
<p>Modelo Burke y Litwin</p>	<p>1992</p>	<p>Tiene 12 dimensiones:</p> <ol style="list-style-type: none"> <li>1. Entorno o ambiente externo</li> <li>2. Misión y estrategia</li> <li>3. Liderazgo</li> <li>4. Cultura organizacional</li> <li>5. Estructura</li> <li>6. Prácticas de gestión</li> <li>7. Sistemas</li> <li>8. Clima de unidad laboral</li> <li>9. Tarea y habilidades individuales</li> <li>10. Necesidades y valores individuales</li> <li>11. Motivación</li> <li>12. Desempeño individual y organizacional</li> </ol>
<p>Modelo Nacional para la competitividad micro y pequeña</p>	<p>2013</p>	<p>Indicadores:</p> <ul style="list-style-type: none"> <li>– Ingresos</li> <li>– Costos</li> <li>– Resultados financieros</li> <li>– Posición competitiva</li> <li>– Participación de mercado</li> <li>– Satisfacción de clientes</li> <li>– Satisfacción grupos de interés; accionistas, personal, sociedad</li> <li>– Número de personal</li> <li>– Estructura de organización</li> <li>– Capacidad instalada</li> <li>– Nivel de desempeño de indicadores de procesos clave</li> </ul>

<p>Modelo administración del desempeño PDG manufacturier</p>	<p>2010</p>	<p>Es una herramienta para el diagnóstico del desempeño y vulnerabilidad global para las Pymes manufactureras. Su objetivo inmediato es la medida del desempeño de la empresa en comparación con aquellas empresas parecidas en su estrategia de dirección (reactivo, proactivo y analítico), es decir que han adoptado la misma orientación estratégica para su desarrollo. Funciones de la empresa: Recursos humanos, innovación, producción, ventas /marketing, gestión y control. Basado en evaluación de desempeño 360°</p>
<p>Modelo 3F</p>	<p>Se basa en indicadores de desempeño de eficacia, eficiencia y efectividad.</p>	
<p>Cuadro integral de mando</p>	<p>Hace énfasis en los indicadores financieros y no financieros que deben formar parte de un sistema de información para empleados en todos los niveles de la organización, lleva a cabo procesos de gestión decisivos:</p> <ol style="list-style-type: none"> <li>1. Aclarar, traducir o transformar la visión y la estrategia.</li> <li>2. Comunicar y vincular los objetivos e indicadores estratégicos.</li> <li>3. Planificar, establecer objetivos y alinear las iniciativas estratégicas.</li> <li>4. Aumentar el feedback y formación estratégica.             <ul style="list-style-type: none"> <li>– Clarificar la estrategia y conseguir el consenso sobre ella</li> <li>– Comunicar la estrategia a toda la organización</li> <li>– Alinear los objetivos personales y departamentales con la estrategia</li> <li>– Vincular los objetivos estratégicos con los objetivos a largo plazo y los presupuestos anuales</li> <li>– Identificar y alinear las iniciativas estratégicas</li> </ul> </li> </ol>	

Fuente: Elaboración propia (2019)

## Método

El enfoque de esta investigación fue de naturaleza mixta. El tipo de investigación fue analítica, no probabilística de una muestra de las micro y pequeñas empresas manufactureras de la ciudad de Chihuahua.

El diseño fue no experimental, de campo, con amplia consulta bibliográfica en fuentes principalmente electrónicas o digitales, transversal, la información fue recolectada en un solo momento basada en encuestas a gerentes y dueños de empresas.

Las variables evaluadas fueron seleccionadas de acuerdo a la revisión bibliográfica realizada las cuales fueron las siguientes: variable dependiente fue: 1) Desempeño Organizacional y las variables independientes e indicadores fueron: 1) Rentabilidad (margen de utilidad operacional, margen de utilidad neta, rendimiento sobre los activos); 2) Calidad (sistema de calidad, mejora continua, calidad del producto, medición de la calidad); 3)

Productividad (eficiencia, utilización); 4) Capacitación (horas de capacitación por empleado, capacitación técnica, capacitación interpersonal, capacitación para la resolución de problemas, correlación capacitación- competencias requeridas); 5) Tecnologías de Información (Tecnologías de Información y Comunicación, gestión de la información) y 6) Planeación estratégica (visión/misión, análisis de Fortalezas, Oportunidades, Debilidades y Amenazas (FODA), planeación / objetivos estratégicos).

El instrumento utilizado fue un cuestionario de 47 preguntas las cuales fueron cerradas para medir las variables. La escala utilizada fue de tipo likert con 5 puntos, donde: 0=No, nunca y 4= Si, siempre.

El método de consistencia interna basado en el alfa de Cronbach permitió estimar la fiabilidad del instrumento de medición a través de un conjunto de ítems que se espera que midan el mismo constructo o dimensión teórica. El resultado del Alpha de Cronbach fue excelente pues el resultado fue de .984 de las 47 preguntas.

La población bajo estudio fueron las micro y pequeñas empresas del sector manufacturero (excluyendo el de alimentos) de la ciudad de Chihuahua, Chihuahua, México. Las cuales se fueron filtrando mediante llamadas y validación de la existencia de las mismas.

En el período de tiempo comprendido entre los meses de noviembre del 2018 y mayo del 2019 se estableció contacto con los grupos de interés y se procedió a recabar retroalimentación a través de llamadas telefónicas, correos electrónicos y visitas físicas a las empresas.

Se utilizó la base de datos del SIEM (Sistema de Información Empresarial Mexicano). Después de esto se procedió a verificar por teléfono o visitas a ver cuáles empresas estaban todavía en operación y cuales eran manufactureras para depurar quedando la muestra de 32 empresas.

El tipo de muestreo fue no probabilístico y el método de muestreo fue por conveniencia en donde accedieron a participar 32 empresas. La selección de la muestra de las empresas dificultó la localización de varias de ellas ya que el sistema no estaba totalmente actualizado ya fuera por cambios de domicilio o por el cambio de la organización en enfocarse a servicios y dejar a un lado los procesos de manufactura.

## **Resultados**

En la aplicación del cuestionario se puso de manifiesto que no se cuenta con un proceso formal o por escrito e incluso algún dato informativo histórico para comparar los resultados, cada pregunta que se hizo en cada uno de los seis apartados son variables importantes a tomar en cuenta para poder realizar una medición de desempeño. En el apartado de rentabilidad los principales indicadores de desempeño fueron la utilidad bruta, utilidad neta y el rendimiento sobre activos principalmente solo un promedio de 29.1% de los

negocios estudiados contaban con ese monitoreo. En el apartado de calidad solo un 34% cuenta con un sistema de calidad, sin embargo, el 62.6% no tiene un proceso establecido para la solución de problemas con esto se puede comprobar que no tienen un parámetro para medir esta variable. Se observa que el indicador más evidente para las microempresas es la productividad en las piezas que entregan.

La capacitación no la ven como un indicador a tomar en cuenta para medir el desempeño, porcentajes por encima del 50% no cuentan con planes de capacitación. En el apartado de las tecnologías de la información como tal no se podría aplicar una medición de desempeño en este sector, son pocas las empresas que las usan como herramientas para poder realizar reportes u otras actividades, el 34% afirmó recabar información sobre el ambiente externo, sin embargo, no cuentan en medios electrónicos con historiales de las actividades. En el apartado de planeación estratégica que según los autores mencionados en el marco teórico es la base para determinar todo lo relacionado con los objetivos de la empresa y poder medir los mismos, el 71.9% admitió no contar con procedimientos para monitorear los resultados. Se observó que al momento de preguntarles a los dueños o directivos (que dijeron contar con ellas) que mostraran los documentos de formalización de las mismas, solo 5 de ellos las pudieron evidenciar. La productividad que es desde el punto de vista de las microempresas de manufactura el área más relevante, solo 37.6% miden la productividad.

Después de realizar un diagnóstico sobre la situación actual de las micro y pequeñas empresas del sector manufacturero y hacer una revisión bibliográfica, se procedió a diseñar un modelo teórico (Figura 1) para representar cómo al medir el desempeño organizacional se propicia un mejor nivel de competitividad en las empresas.

**Figura 1.** Modelo de medición de desempeño para la micro y pequeña empresa manufactureras de la ciudad de Chihuahua



Fuente: Elaboración propia (2017).

A continuación se describen las variables que se sugieren para el modelo propuesto tomando en cuenta variables acordes al alcance del sector de las micro y pequeñas empresas, todas ellas auxiliadas y apoyadas por las Tecnologías de la Información y Comunicación, se consideraron como variables importantes: 1) Planeación estratégica; 2) Capacitación; 3) Productividad; 4) Calidad y 5) Rentabilidad.

**1) Planeación estratégica.** Es la base sobre la cual empezar a definir el rumbo de la organización, sin embargo, algunas micro y pequeñas empresas manufactureras de la ciudad de Chihuahua lo han dejado de lado y esto muestra cómo trabajan día a día con el único propósito de terminar el trabajo que se tiene pendiente sin tener definidos objetivos, es por eso que se propone: 1) Revisar la visión empezando por tener el claro las aspiraciones de los propietarios para definir lo que la empresa quiere ser y hacer a mediano y largo plazo, definir la imagen a futuro de lo que se pretende que la empresa sea; 2) Analizar la misión, que es la razón de ser de la organización, el propósito fundamental de la existencia y el rol que desempeña actualmente para el logro de la visión y para definirse pueden verificar algunos componentes tales como: Productos y servicios que ofrece, Filosofía de la compañía, Autoconcepto, Clientes y mercado meta, Zona de influencia, Nivel tecnológico disponible, Compromiso con los empleados, Compromiso social y Uso de Tecnologías y Manejo de la Información (TIC); 3) Establecimiento de objetivos. Un punto importante a seguir es la definición de los objetivos, es decir, determinar qué es lo que se quiere lograr a corto, mediano y largo plazo, si bien, los objetivos a largo plazo no se ven como importantes en las micro y pequeñas empresas y podría marcar la diferencia de subsistencia de la misma para esto se recomienda: Plantear las fortalezas y debilidades internas de la compañía; definir las oportunidades y amenazas del ambiente externo que pudieran afectar a la empresa y establecer los objetivos generales (estratégicos). Después de determinar los pasos anteriores es tiempo de medir el porcentaje del personal al que se comunica la estrategia, se sugiere que sea inmediatamente después que se hayan establecido el plan y los objetivos estratégicos con el fin de que todos los involucrados tengan en claro cuál es el rumbo que se está tomando, y sobre todo que rol o actividad le corresponde a cada individuo; 4) Juntas de revisión de seguimiento a los planes y objetivos estratégicos. Para que se concreten los resultados deseados es importante que los regentes de las micro y pequeñas empresas los monitoreen de una forma constante. Se aconseja llevar un proceso mensual de seguimiento de los principales indicadores de la estrategia a través del medible: Todo lo anterior servirá para medir el porcentaje de objetivos cumplidos conforme vaya avanzando el periodo de tiempo establecido en el plan. Es importante que toda esta información que se está

planteando quede por escrito y alimentado en una base de datos electrónica, en este punto con la utilización de las TIC se pueden ayudar a recopilar, procesar y difundir información interna y externa a la empresa de manera oportuna, efectiva y eficiente para apoyar a los administradores en el desempeño de las tareas. Debido a que la información es muy importante para todo lo que hace una organización, los administradores deben tener controles plenos y seguros para proteger dicha información. Se exhorta a las micro y pequeñas empresas a respaldar los datos clave.

**2) Capacitación.** La capacitación es otro punto en el cual no se tiene un control o es un punto de interés en este tamaño de empresas, pues, aunque puede parecer que no se necesita, es importante transmitir conocimientos a las áreas involucradas, ya sean una o varias personas las que realicen una o varias actividades. La capacitación es uno de los instrumentos fundamentales para mejorar la competitividad de las empresas. Los empleados deben ser capacitados constantemente para que puedan ser competentes en este entorno actual tan cambiante. La capacitación incluye todo, no solo cuestiones técnicas sino desde enseñar aptitudes básicas de lectura hasta cursos avanzados en habilidades gerenciales. Para medir la capacitación, los conceptos que se sugieren son: 1) El porcentaje de descripciones de puestos que se tienen en la empresa. Un buen conocimiento del contenido y requisitos de los distintos puestos en las organizaciones es clave para definir las necesidades de capacitación al personal. Para determinar este porcentaje se sugiere: definir un listado de los distintos puestos existentes en la organización, elaborar una descripción para cada puesto. Para la elaboración de las descripciones de puesto, se sugiere realizar el análisis del trabajo con los mismos trabajadores y supervisores a través de entrevistas, cuestionarios y observaciones directas. 2) definir las necesidades de capacitación para cada empleado después de evaluar la descripción de puesto y de esta manera elaborar un plan, 3) Otro punto a medir es el porcentaje de rotación del personal, se logra calculando: El número de personas en promedio durante el periodo del cálculo, se suma el número del personal al inicio y al final del periodo y se divide entre 2 para sacar el promedio.

Es importante ya que un menor índice de rotación se ve reflejado en las pérdidas o ganancias de la empresa. Entre algunas causas de la rotación del personal se encuentran situaciones de desconocimiento sobre la cultura a los clientes internos en la compañía, sistemas de motivación, pero sobre todo por la falta de capacitación en diversos aspectos de conocimiento, por ejemplo, la visión, misión y valores de la compañía, liderazgo, manejo de conflictos, trabajo en equipo, administración del tiempo, responsabilidades, contribución de mejoras a las actividades y de la empresa en general.



**3) Productividad.** Para medir este indicador se debe realizar una comparación de un periodo a otro, sin embargo se evidenció que pocas micro y pequeñas empresas saben cómo hacerlo, pues no implica solo decir cuántas piezas se produjeron en un periodo de tiempo, también hay que analizar si la producción está siendo redituable o no. Esto se logra identificando el índice de productividad y la eficiencia de la operación. Para llevar a cabo este proceso se deben seguir los siguientes pasos:

1. Definir unidades de medida
  - A) En una primera etapa se define la unidad de medida para la productividad, en el caso de industria manufacturera las unidades de medida son:
    - Ventas entre costos totales
    - Costo por pieza producida.
    - Ventas entre el número de horas hombre trabajadas
    - Número de unidades producidas entre el número de horas hombre trabajadas.
  - B) También se define la unidad de medida para la eficiencia:
    - Tiempo promedio real entre tiempo promedio estándar.
    - Salida real en unidades entre la salida estándar de unidades.
2. Identificación de factores. Identificar las ventas y los costos que involucran la elaboración del producto como materia prima, insumos, mano de obra
  - a. Costos fijos
  - b. Costos variables
3. Aplicación de la siguiente fórmula:

$$Productividad = \frac{Ventas}{Costos\ totales}$$

$$Productividad\ de\ la\ mano\ de\ obra = \frac{Ventas}{\frac{Número\ de\ Horas - Hombre\ Trabajadas}{Número\ de\ unidades\ producidas}}$$

$$Productividad\ de\ la\ mano\ de\ obra = \frac{Ventas}{Número\ de\ Horas - Hombre\ Trabajadas}$$

Éste medible se puede utilizar en las empresas que manejan volúmenes de producción considerables con estandarización de modelos

$$Productividad\ por\ unidad = \frac{Costo}{Pieza\ producida}$$

Aquí también aplica el indicador para empresas con productos estandarizados y con volúmenes significativos de producción.

4. Eficiencia. Significa producir sin desperdiciar recursos. Una empresa eficiente produce resultados sin desperdicios y, en consecuencia, a bajo costo. Esto permite ofrecer al cliente precios más accesibles y se generan más utilidades para la empresa.



$$Eficiencia = \frac{Tiempo\ real}{Tiempo\ promedio\ estándar}$$

Nota: Es el tiempo calculado para llevar a cabo el trabajo

$$Eficiencia = \frac{Salida\ real\ en\ unidades\ real}{Salida\ estándar\ de\ unidades}$$

Éste medible se puede utilizar en las empresas que manejan volúmenes de producción considerables con estandarización de modelos.

Todos estos cálculos se pueden alimentar en una base de datos en Excel y los resultados guardarlos conforme las necesidades de información ya sean de manera diaria, semanal, mensual o anual. Es importante tener estos datos al menos cada mes para poder medirlos un periodo contra otro periodo y así evaluar las áreas de oportunidad y redefinir objetivos.

**4) Calidad.** Todo lo que es calidad supone un buen desempeño que satisface las necesidades específicas del cliente, es algo que le aporta valor al cliente.

También calidad desde la perspectiva de producción, es el grado en el que un producto cumple con diferentes especificaciones y requisitos establecidos por el cliente. La calidad es relativa ya que cada cliente tiene un concepto de calidad, por ello es importante detectar las percepciones de los clientes para poder establecer acciones de mejoramiento que permitan cumplir con las expectativas. La calidad puede ser determinada de manera externa o interna y se puede medir mediante los siguientes criterios:

- Satisfacción del cliente externo, esto es cumplir con las expectativas que el consumidor tiene sobre el producto o servicio (si el cliente percibió en el producto o servicio lo que al menos el esperaba), para medir este criterio es necesario:
  - a. Identificar las características fundamentales del producto o servicio que el cliente espera recibir.
  - b. Elaborar un cuestionario basado en preguntas sobre la experiencia con el producto o servicio prestado.
    1. Establecer una escala de valor. Se recomienda el uso de una escala de medición de Likert (acuerdo, frecuencia, importancia, probabilidad, etc.), es importante tener en cuenta que en éste tipo de medición se debe tomar en cuenta una escala en número non, esto con el objetivo de que pueda existir un punto medio cuando la persona que responda las preguntas se encuentra con una incógnita, un ejemplo de esta escala es asignar un valor: 1) Totalmente de acuerdo, 2) En desacuerdo, 3) Ni de acuerdo ni en desacuerdo y 4) De acuerdo y 5) Totalmente en desacuerdo.

- c. Calcular las frecuencias y porcentajes para cada una de las dimensiones, es decir, hacer un concentrado de las personas a las cuales se les aplicó el cuestionario para poder visualizar los resultados.

El cuestionario el cliente lo responde después de haber recibido el producto o servicio, ya sea por escrito o por algún medio electrónico, telefónico, o a través de entrevistas.

- Fallas externas, ocasionan costos que ocurren después de la entrega de partes o servicios defectuosos (por ejemplo, trabajo repetido, bienes devueltos, responsabilidades, pérdida de buena imagen, costos para la sociedad) y se puede medir a través retornos por garantía (devoluciones) y quejas del cliente.

- a) Retornos por garantía

Se mide en porcentaje de las unidades devueltas en un periodo de tiempo entre las unidades que se produjeron en el mismo periodo de tiempo

$$\text{Porcentaje de Retornos por Garantía} = \frac{\text{Unidades Devueltas}}{\text{Unidades producidas}}$$

- b) Quejas del cliente

Se mide en: la cantidad de Reclamaciones Recibidas

- Rechazos internos, que son las fallas internas que ocasionan costos que resultan al producir bienes o servicios defectuosos antes de la entrega a los clientes y se miden:

- a) Porcentaje de Rechazos. Se mide al dividir las piezas defectuosas entre el total de piezas producidas en un periodo de tiempo

$$\text{Porcentaje de Rechazos} = \frac{\text{Unidades Defectuosas}}{\text{Total de Unidades producidas}}$$

- b) Desperdicio. Se refiere a los desechos y/o residuos derivados de las fallas en los procesos de la organización. Se mide ya sea en la cantidad de pesos desperdiciados por estas fallas, en pesos por unidad o en pesos por hora trabajada.

$\text{Desperdicio} = \text{Cantidad de pesos}$

$$\text{Desperdicio por unidad} = \frac{\text{Cantidad de Pesos}}{\text{Unidades Producidas}}$$

$$\text{Desperdicio por hora trabajada} = \frac{\text{Cantidad de Pesos}}{\# \text{ de } h - \text{ Hombre Trabajadas}}$$

- Otro punto de medición para progresar en calidad, es el número de sugerencias de mejora, las cuales son:

$$\frac{\# \text{ Sugerencias de mejora}}{\text{Mes}}$$

Como se mencionó anteriormente, la calidad implica uno de los instrumentos primordiales para incrementar la competitividad de las empresas. Al mejorar la calidad, se disminuyen los costos por problemas en pérdidas de tiempo, defectos, re trabajos, reparaciones por descomposturas de maquinarias, sobre inventarios, entregas tardías, costos de oportunidad, entre otros. Esto se consigue por medio de propuestas de mejora derivadas de los programas de capacitación e incentivos que los directivos implementen en la empresa.

**5) Rentabilidad.** La rentabilidad es lo que indica que el negocio es redituable, es decir, si hay ganancias o pérdidas y como mínimo se tienen que identificar tres resultados. Esta información se puede obtener de un contador, el cual en el 80% de las empresas que se investigó cuentan con él, o bien, determinarlo.

- **Ventas = Ingreso total en pesos por ventas durante el periodo.**
- Utilidad bruta que mide el porcentaje de cada peso de ventas que queda como ganancia después los gastos que hizo la empresa. Para esto es importante identificar las entradas y salidas de dinero. Esta utilidad representa el monto restante para cubrir los costos operativos, financieros y fiscales.
  - a. Calcular las ventas totales del periodo
  - b. Calcular el costo de todos los bienes vendidos (materiales, costo de los fletes, sueldos y salarios de la mano de obra directa)
  - c. Los costos de venta se restan de las ventas y los ingresos. Con esto se obtiene la utilidad bruta.

Y sustituyendo los valores en la siguiente ecuación se obtiene el margen (%) de utilidad bruta:

$$\text{Margen de utilidad bruta} = \frac{\text{Utilidad bruta}}{\text{Ventas}}$$

- Utilidad neta se obtiene al restar los impuestos de la utilidad operativa:
  - a. Calcular la utilidad operativa (utilidad bruta menos todos los demás costos y gastos necesarios para operar)
  - b. A la utilidad operativa se le restan los intereses, impuestos y dividendos de acciones. Con esto se obtiene la utilidad neta.

Y sustituyendo los valores en la siguiente ecuación se obtiene el margen (%) de utilidad neta:

$$\text{Margen de utilidad neta} = \frac{\text{Utilidad neta}}{\text{Ventas}}$$

## Discusión

Castillo & Vargas (2009) señalan que para que una organización tenga un desempeño eficiente debe implementar y administrar el proceso de gestión bajo una lógica incremental y de procesos para controlar y dar seguimiento al

sistema de decisiones y la estrategia de la organización, tanto a través de mostrar los resultados de la organización ante su entorno, así como considerar la organización interna del trabajo. En los resultados se pudo ver que en la planeación estratégica a pesar de que más del 50% de las compañías dijo tener misiones y visiones, se observó que al momento de preguntarles a los dueños o directivos (que dijeron contar con ellas) que mostraran los documentos de formalización de las mismas, solo 5 de ellos las pudieron evidenciar.

Gitman & Zutter (2012), describen la rentabilidad como una herramienta para evaluarla en relación a las ventas, siendo el estado de pérdidas y ganancias de gran utilidad para comprobar el rendimiento a través de los años. Tres índices de rentabilidad más comunes y se leen en el estado de pérdidas y ganancias de tamaño común son: 1) el margen de utilidad bruta, 2) el margen de utilidad operativa y 3) el margen de utilidad neta; en la investigación las utilidades brutas y netas las monitorean de forma muy frecuente el 40.6% y el 37.5% y de respectivamente, aunque el porcentaje es alto en comparación con otros resultados, éste debería llegar al 100% para poder tener mejores resultados en las micro y pequeñas empresas.

Varo (1994) considera como productividad la relación entre los resultados obtenidos y los recursos empleados, en la investigación un porcentaje alto, el 62.6% comentó que nunca, raramente u ocasionalmente miden la productividad.

Nuño de León (2012) confirma que en las pequeñas empresas no miden la capacitación, y se pudo comprobar ya que el 65.6% de las empresas refirió que nunca, raramente u ocasionalmente cuentan con algún plan de capacitación técnica para los empleados y dicho porcentaje aumenta a un 72% respecto a planes de capacitación en aptitudes interpersonales para los trabajadores, éste autor menciona que la productividad se genera por medio de la capacitación, por el flujo de beneficios, y éstas ganancias son mayores a los costos de la capacitación. Los beneficios que se generan al invertir en capacitación, no son medibles en las pequeñas empresas, ya que es difícil convencer sobre la importancia que implica como estrategia empresarial; para las pequeñas empresas el invertir en maquinaria y tecnología es lo mismo que invertir en capital humano, contratarlo, capacitarlo y desarrollarlo.

En la capacitación al momento de cuestionar a los directivos de las empresas sobre la definición de las competencias para los puestos de trabajo, a pesar de que un 47.4% de ellas mencionó tenerlas, solo 4 pudieron mostrar evidencia formal de los documentos.

En el apartado de calidad, se observó que a pesar de que el 79% de las empresas indicó monitorear la calidad de sus productos y servicios, dicho monitoreo en su mayoría se lleva de una manera informal y sin consistencia ya que no cuentan con documentos que regulen la estandarización de los

procesos de medición de los aspectos más importantes de las características críticas.

Un gran porcentaje (70.8%) de las organizaciones no mide de alguna forma cómo los perciben los clientes, situación que puede poner en riesgo la imagen al igual que limita los posibles esfuerzos de mejora para incrementar el agrado de los consumidores. Lo mismo sucedió al cuestionar los objetivos estratégicos ya que la mayoría de los directivos que indicó contar con ellos, no pudieron mostrar evidencia de los mismos (un gran número de ellos los tienen en las mentes).

Se pudo apreciar que, en la gran mayoría, estas empresas no cuentan con un proceso formal para establecer las estrategias ni para medir los objetivos estratégicos.

### **Conclusion**

Los indicadores utilizados para medir el desempeño organizacional de las micro y pequeñas empresas del sector manufacturero de la ciudad de Chihuahua fueron la rentabilidad, calidad, productividad, capacitación, tecnologías de la información y la planeación estratégica, se pudo comprobar que las micro y pequeñas empresas consideran como indicador principal para evaluar el desempeño organizacional a la productividad, sin embargo, una variable importante fue medir el rendimiento concepto que la mayoría de las empresas desconocía y no lo lleva a cabo.

La falta de capacitación al personal de las micro y pequeñas empresas las pone en desventaja en el ambiente competitivo ya que el capital humano no puede ser aprovechado al máximo por la falta de entrenamiento en cuestiones técnicas y de desarrollo personal que puedan solucionar los principales problemas que las organizaciones están afrontando en la actualidad. Las micro y pequeñas empresas son un sector importante para la economía de México pues son generadores del mayor porcentaje de empleo, sin embargo, es un sector que necesita bases sólidas y estudiadas para poder sobrevivir y crecer. El aportar una medición del desempeño organizacional en un sector poco estudiado puede contribuir a la sustentabilidad de este sector y por tanto facilitar su supervivencia.

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## A Study of the Relationship between Locus of Control and Self-monitoring to Resilience in Students

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### Abstract

A person may experience both positive and negative stress, which is mainly associated with a wide range of negative consequences, such as a decrease in well-being, an increase in diseases, post-traumatic stress, anxiety, and depression disorders. High stress in a person does not always develop these negative results. According to latest researches and studies, most people are exposed to stress, and developing resilience is the main factor in order to cope with the unpredictable environment (Troy & Mauss, 2011). The ability to disengage from negative stimuli and feelings is an important protective factor against long-term negative results. Resilience represents the ability of a person to cope with life's difficulties and is a multidimensional characteristic which varies by context, age, gender, culture, and individual life (Felicia et al., 2021). According to contemporary approaches, resilience is a personal trait that helps a person to adapt and cope with traumatic experience. Psychological component of resilience means that a person maintains psychological health without any trauma and stressors, while behavioral component of resilience means maintenance of self-effectiveness and aspiration towards goals (Kamushadze, 2021). One of the components of resilience at the individual level is identified as self-control, which is an aspect of behavior control and is often viewed as willpower and the ability to control impulses. In a psychological sense, self-control refers to emotions and the initiation or



modification of emotional reactions through cognitive processes. The locus of control is also considered to be a factor that has a significant influence on the formation of resilience. According to Rotter, people differ from each other according to the localization of control over events. This difference can be described as internal and external poles. Internal people believe that everything that happens in their lives depends only on their personal qualities, purposefulness, abilities, and competence. External people strongly believe that their lives are controlled by outside forces, and their success or failure is the fault of randomness, other people, and so on., This paper therefore focuses on determining the relationship between the locus of control and self-monitoring to resilience among undergraduate, graduate, and doctoral students. Internal-External Locus of Control Scale (I-E Scale), Self – Monitoring Scale, and Brief Resilience Scale (BRS) were used in this study. Based on the analysis of the results, it was revealed that self-ownership is related to resilience and locus of control, and the latter is negatively related to resilience. Differences were analyzed by demographic characteristics.

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**Keywords:** Hardiness of Students, Internal-External, Locus of Control, Self-Control, Self-Monitoring, Resilience

## **Introduction**

Self-monitoring, resilience and control of locus represents one of the significant conditions for preventing life difficulties/obstacles and problems related to psychological health. Positive reactions on changes can be connected with the skill of coping with problems, as well as the level of self-monitoring, as long as they control and pay attention to their own expressive behaviors and self-presentation. The level of self-monitoring is very crucial for establishing whether the attitude defines behavior or not. Self-monitoring influences relationships differently. High level of self-monitoring is strongly connected with the attempt made by a person to better fit his/her behavior with the situation (Sumbadze et al., 2012).

In the contemporary world, a person's resilience is very important in the face of many difficult challenges. This goes a long way to show how the individual manages to adapt positively with the situation and cope with difficulties. Resilience is a human representational system about oneself, the world, and the relationship with the world, which include three relatively independent components: involvement, control, and taking risks (Chomakhidze, 2022).

The latest approaches involve several directions while understanding resilience. Some of the authors consider this as a personal characteristic feature and as “immunity” against traumatic experiences. Others see resilience

as the result of overcoming a serious obstacle that acquires a functional character (Kamushadze, 2021).

Behavioral and psychological components of resilience are distinguished (Kamushadze, 2021). Psychological component implies that a person maintains psychic health and welfare with the help of resilience. Thus, an individual does not have to go through a traumatic experience or illness to deal with difficulties and make them work. Behavioral component is directed to the person's skill to maintain effectiveness and aspire towards goals (Kamushadze, 2021).

According to the researchers, there is a strong connection between resilience and control of locus perceived by a person. Thus, with internal people, depression, anxiety, and stress level can be much more lower. In addition, the people with internal locus behaviors can be classified as problem-oriented. Also, locus of control can be connected with employment and many other results, such as job satisfaction, motivation, and leadership. The coping process begins in response to a traumatic event, and a person's belief that their recovery process is within their control determines their readiness to begin the recovery process. Although a number of studies have described the relationship between locus control and resilience, locus control has been found to be important in determining resilience. However, in-depth research in this area is still scarce (McGregor, 2018).

Control of locus is one of the integral features of self-consciousness, which connects the sense of responsibility, the willingness to be active, and the sense of oneself. According to Rotter, people differ from each other with control localization on the events that are important and considerable for them. There are two poles of control localization – internal and external (Chomakhidze, 2022). In the first case, a person considers that anything that happens in his/her life is based on his/her personal traits, competence, purposefulness, and opportunities. Therefore, it is a legitimate result of his/her own activity (inner control). In the second case, a person strongly believes that his/her success or failure is a result of external forces, such as fortune, randomness, other people, and so on (external control). Rotter opines that control of locus is a special and fundamental type of generalized hope, which is a level of understanding of the causal relationship between a person's own behavior and the achievement of the desired result. An individual may try to achieve certain goals and objectives, with a generalized hope that the attempt will be successful. The behavior of a person who believes that destiny can be controlled is different from the behavior of a person with an external locus of control, who also believes that fate depends on luck, chance, or other people (Chomakhidze, 2022).

## 1. Method

**Research Goal:** To determine the relationship between locus of control and self-monitoring to resilience among students. Internal-External Locus of Control Scale (I-E Scale) (Sumbadze et al., 2012), Self-Monitoring Scale (Sumbadze et al., 2012), and Brief Resilience Scale (BRS) (Kamushadze, 2021) were used in this research. Research participants evaluated statements with grades on the scales, and SPSS 20 was used to work on the data.

**Target Group:** Students

**Selection:** Non-probability sampling methods - available sampling and snowball sampling - were used.

### The Study Tried to Answer the Following Questions

- What is the relationship between self-monitoring, locus of control, and resilience among Georgian students?
- Is the level of education (undergraduate, graduate, and doctoral) associated with different outcomes of self-monitoring, locus of control, and resilience?

**Hypothesis:** While doing this research, there were established hypotheses

**H1.** Resilience rate among internal students will be higher compared to external ones;

**H2.** A high rate of self-monitoring among students will be associated with a high rate of resilience;

**H3.** Female respondents have a higher rate of externality compared to male respondents;

**H4.** The resilience rate for PhD students will be higher compared to undergraduate and graduate students;

**H5.** Female respondents will have a higher rate of self-monitoring compared to males;

**H6.** The resilience rate will be higher with male respondents compared to female respondents.

### 1.1. Participants

Two hundred and fifty-two (252) students of the higher education institution of Georgia participated in the study. Based on collated data, 89.3% were female and 10.7% were male. The average age of respondents was 22 years ( $M=22$ ,  $SD=4.43$ ). 78.2% of the students involved in the study were at the bachelor's level, 15.9% at the master's level, and 6% at the doctoral level. 14.7% of the respondents were first-year students, 40.1% were second-year students, 27.8% were third-year students, and 17.5% were fourth-year students. 88.1% of the participants were single and 11.9% were married.

## **1.2. Data Collection Procedure**

The survey was conducted using Google Forms platform. After introducing the main goals and objectives of the research, respondents took part in the survey voluntarily. Considering the ethical standards of the survey, anonymity was preserved. In order to avoid missing data and obtain complete information, it was compulsory to answer all of the questions.

## **1.3. Research Limitation**

The main limitation of the research is the selection of respondents. It would have been better if the students of all universities in Georgia were involved in the research. This would have made it possible to generalize the results. The restriction is also related to the violation of the gender balance as majority of the respondents were female representatives.

## **2. Measures**

### **2.1. Internal-External Locus of Control Scale (I-E Scale)<sup>1</sup>**

The locus of control measurement scale was created by Julian Rotter in 1996. The scale is administered in a forced-choice format and requires respondents to select from each pair of statements A and B. One statement represents an internal or external locus of control to identify the statement with which they agree more. The scale consists of 29 pairs of statements, of which 23 measure locus of control and 6 pairs are supplementary statements (Sumbadze et al., 2012).

### **2.2. Self-Monitoring Scale<sup>2</sup>**

Self-monitoring scale was created by Mark Snyder in 1972. This scale includes 18 statements that are evaluated with dichotomic answers – Yes/No. According to the scale indicator, people differ from each other with self-monitoring level, which determines how they control and pay attention to their own expressive behaviors and self-presentation (Sumbadze et al., 2012).

### **2.3. Brief Resilience Scale**

According to Smith et al. (2008), the six statement version of the brief resilience research scale evaluates skills of coping with difficulties. The answers are given on the 5 grade scale, where 1 = completely disagree, while 5 = completely agree. The paper uses the Georgian version of the Brief Resilience scale from Kamushadze's dissertation (2021).

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<sup>1</sup>Adapted to the Georgian population by Sumbadze et al. (2012)

<sup>2</sup>Adapted to the Georgian population by Sumbadze et al. (2012)

### 3. Results

To determine the relationship between locus of control and self-monitoring to resilience among students, one-dimensional analysis, two-dimensional analysis, cross-tabulation analysis, one-factor ANOVA table, and linear regression analysis were used to process the obtained data. Also, Pearson's correlation coefficient and  $X^2$  were calculated.

In order to illustrate differences on the self-monitoring research scale based on demographic features and statistical procedures, it was established that female self-monitoring level was low at 25.3%, while 74.7% was high level. For the males, self-monitoring level was low at 33.3%, while 66.7% was high level ( $X^2=.000$ ;  $df=1$ ). Accordingly, self-monitoring level for the females and males indicates  $M=8.19$ ;  $SD=3.202$  and  $M=11.85$ ;  $SD=3.427$ , respectively. Based on the variance analysis (ANOVA Table), it was established that gender differences on the self-monitoring scale are statistically reliable ( $df=1$ ; Mean square= 323.060;  $F= 31.037$ ;  $Sig=.000$ ).

On the self-monitoring research scale, 66.7% and 70.7% of married respondents have a low level of self-ownership. Conversely, 33.3% of married respondents and 29.3% of single respondents have a high level of self-monitoring ( $X^2=.407$ ;  $df=1$ ). Based on variance analysis (ANOVA Table), it was determined that the differences on the self-monitoring scale according to marital status are not statistically significant ( $df=1$ ; Mean square= 1.520;  $F=.130$ ;  $Sig=.719$ ).

While working on the data, it was found that the increasing trend of the self-monitoring index is revealed along with the increase in the level of education on the self-monitoring research scale. The average rate of self-monitoring among undergraduate students and master level student is  $M=7.75$  and  $M=8.64$ , respectively. Thus, 10.07.82.5% of undergraduate students, 69.5% of master's students, and 46.7% of PhD students showed low self-monitoring. On the self-monitoring research scale, 17.5% of undergraduate students, 30.5% of master's students, and 53.3% of PhD students have a high level of self-monitoring ( $X^2=.032$ ;  $df=2$ ).

Based on variance analysis (ANOVA Table), it was determined that the differences according to the level of learning on the self-monitoring scale are statistically significant ( $df=2$ ; Mean square=30.703;  $F=2.669$ ;  $Sig=.071$ ).

According to cross-tabulation analysis, it was determined that 75.7% of first-year students, 75.2% of second-year students, 67.1% of third-year students, and 59.1% of fourth-year students have a low level of self-monitoring. However, 24.3% of first-year students, 24.8% of second-year students, 32.9% of third-year students, and 40.9% of fourth-year students who participated in the study had a high level of self-monitoring on the research scale ( $X^2=.197$ ;  $df=3$ ). The variance analysis (ANOVA Table) revealed that

the differences according to the year of study on the self-monitoring scale are not statistically significant ( $df=3$ ; Mean square= 3.375;  $F= .287$ ;  $Sig =.835$ ).

The cross-tabulation analysis revealed that 63.6% of the female respondents have a low score on the locus of control scale and 36.4% have a high score. On the mentioned scale, 74.1% of the male representatives had low score and 25.9% had high score ( $X^2=.280$ ;  $df=1$ ). On the locus of control scale, the average score among female and male respondents is  $M=10.67$ ;  $SD=4.183$  and  $M=9.85$ ;  $SD=4.120$ , respectively. Based on variance analysis (ANOVA Table), it was determined that the differences between genders on the locus of control scale are not statistically significant ( $df=1$ ; Mean square= 16.180;  $F=.928$ ;  $Sig=.336$ ). 66.7% and 64.4% of married respondents had low locus of control. Conversely, 33.3% of married students and 35.6% of single students had a high score on the mentioned scale ( $X^2=.817$ ;  $df=1$ ). According to variance analysis (ANOVA Table), it was determined that the differences on the locus of monitoring scale based on marital status are not statistically significant ( $df=1$ ; Mean square=1.466  $F=.083$ ;  $Sig=.773$ ). 62.4% of undergraduate students, 70.0% of master's students, and 80.0% of PhD students were found to have low scores on the locus of control scale from the cross-tabulation analysis. Among the students of the same levels, 37.6% of undergraduate students, 30.0% of master's students, and 20.0% of PhD students showed a high rate ( $X^2=.291$ ;  $df=2$ ). Furthermore, the variance analysis (ANOVA Table) showed that the differences according to the learning level on the research scale of the locus of control are statistically significant ( $df=2$ ; Mean square=56.385;  $F=3.292$ ;  $Sig=.039$ ). The average score on the locus of control scale with undergraduate students is  $M=10.78$ ;  $SD=4.143$ , while the average score for graduate students is  $M=10.63$ ;  $SD=4.068$ . Meanwhile, the average score for PhD students is  $M=7.73$ ;  $SD=4.267$ . 70.3% of first-year students, 60.4% of second-year students, 68.6% of third-year students, and 63.6% of fourth-year students have a low score on the locus of control scale. 29.7% of first-year students, 39.6% of second-year students, 31.4% of third-year students, and 36.4% of fourth-year students ( $X^2=.614$ ;  $df=3$ ) showed a high rate on the mentioned scale. The average rate of locus of control among first-year students is  $M=9.03$ ;  $SD=4.40$ , second-year students  $M=10.87$ ,  $SD=3.98$ , third-year students  $M=10.43$ ;  $SD=4.44$ , and fourth year students  $M=11.48$ ;  $SD=3.74$ . Based on variance analysis (ANOVA Table), it was determined that the differences according to the year of study on the locus of control scale are statistically significant ( $df=3$ ; Mean square=44.943;  $F=2.627$ ;  $Sig=.051$ ).

According to the cross-tabulation analysis, it was determined that 44.0% of female representatives have a low success rate and 56.0% have a high success rate, while 14.8% of male representatives have a low rate and 85.2% have a high rate ( $X^2=.004$ ;  $df=1$ ). Through variance analysis (ANOVA

Table), it was also determined that the gender differences on the research scale of resilience are statistically significant ( $df=1$ ; Mean square=.210;  $F=4.814$ ;  $Sig=.029$ ).

40.7% of married students and 41.0% of single students who participated in the study had a low success rate, while 59.3% of married students and 59.0% of single students had a high success rate ( $X^2=.980$ ;  $df=1$ ). Variance analysis (ANOVA Table) revealed that the differences on the research scale of the outcome according to the marital status are not statistically reliable ( $df=1$ ; Mean square=.048;  $F=1.086$ ;  $Sig=.298$ ).

While working on the data, it was revealed that 45.2% of undergraduate students, 32.5% of master's students, and 6.7% of PhD students had a low success rate. On the other hand, 54.8% of bachelors, 67.5% of master's students, and 93.3% of doctoral students involved in the study had a high success rate ( $X^2=.007$ ;  $df=2$ ). Therefore, the variance analysis (ANOVA Table) showed that the differences according to the study level on the research scale of resilience are statistically significant ( $df=2$ ; Mean square=.252;  $F=5.905$ ;  $Sig=.003$ ).

40.5% of first-year students, 38.6% of second-year students, 35.7% of third-year students, and 54.5% of fourth-year students had a low success rate. Subsequently, 59.5% of first-year students showed a high rate. This is followed by 61.4% of second-year students, 64.3% of third-year students, and 45.5% of fourth-year students ( $X^2=.222$ ;  $df=3$ ). Based on variance analysis (ANOVA Table), it was determined that the differences based on the year of study on the resilience research scale are not statistically reliable ( $df=3$ ; Mean square=.031;  $F=.698$ ;  $Sig=.554$ ).

### **3.1. Regression Analysis**

Linear regression analysis revealed that the locus of control scale explained 29% of the data variability ( $R^2 =.087$ ;  $R^2 \text{ Adj}=.064$ ;  $B=14.663$ ;  $\beta=.031$ ;  $SE=1.772$ ;  $t=8.256$ ;  $Sig=.000$ ). On the locus of control scale, the most important predictors were age and year of study. Locus of control has a negative relationship with self-monitoring ( $B=-.038$ ;  $Sig=.031$ ) and resilience ( $B=-4.135$ ;  $Sig=.001$ ) (see Table 1)



**Table 1. Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.294 <sup>a</sup>	.087	.064	4.040

a. Predictors: (Constant), self-monitoring, resilience, age, gender, study level, year of study

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	14.632	1.772		8.256	.000
	self-monitoring	-.038	.082	-.031	-.457	.031
	Resilience	-4.135	1.286	-.209	-3.214	.001
	Age	.160	.098	-.169	1.627	.005
	Gender	-.120	.900	-.009	-.134	.894
	study level	.517	.783	.070	.661	.509
	Year of study	<b>.630</b>	<b>.290</b>	<b>.143</b>	<b>2.171</b>	<b>.031</b>

**A. Dependent Variable: Locus of Control**

The resilience research scale explains 38% of the data variability ( $R^2 = .151$ ;  $R^2 \text{ Adj} = .130$ ;  $B = .412$ ;  $SE = .094$ ;  $t = 4.388$ ;  $\text{Sig} = .000$ ). The most important predictors on the resilience scale are self-monitoring ( $B = .015$ ;  $\beta = .243$ ;  $SE = .004$ ;  $t = 3.857$ ;  $\text{Sig} = .000$ ) and locus of control ( $B = -.010$ ;  $\beta = -.194$ ;  $SE = .003$ ;  $t = -3.214$ ;  $\text{Sig} = .001$ ) (see Table 2).



**Table 2. Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.388 <sup>a</sup>	.151	.130	.19651

a. Predictors: (Constant), self-monitoring, locus of control, age, gender, academic degree (study level) year of study

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.412	.094		4.388	.000
	self-monitoring	.015	.004	.243	3.857	.000
	locus of control	-.010	.003	-.194	-3.214	.001
	Age	.003	.005	.072	.714	.476
	Gender	.002	.044	.003	.052	.959
	academic degree (study level)	.045	.038	.120	1.172	.242
	Year of study	-.006	.014	-.025	-.388	.698

**A. Dependent Variable: Resilience**

The self-monitoring scale explained 41% of the data variability ( $R^2 = .174$ ;  $R^2 \text{ Adj} = .154$ ;  $B = 4.223$ ;  $\beta = .031$ ;  $SE = 1.534$ ;  $t = 2.754$ ;  $Sig = .006$ ). The most important predictors on the self-monitoring scale are resilience ( $B = 3.823$ ;  $\beta = .236$ ;  $SE = .991$ ;  $t = 3.857$ ;  $Sig = .000$ ) and gender ( $B = 3.527$ ;  $\beta = .320$ ;  $SE = .662$ ;  $t = 5.324$ ;  $Sig = .000$ ) (see Table 3).

**Table 3. Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.418 <sup>a</sup>	.174	.154	3.139

A. **Predictors:** (Constant), resilience, locus of control, age, gender, academic degree(study level)

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.223	1.534	.031	2.754	.006
	Resilience	3.823	.991	.236	3.857	.000
	Locus of control	-.023	.050	-.028	-.457	.648
	Age	-.095	.076	-.123	-1.240	.216
	Gender	3.527	.662	.320	5.324	.000
	academic degree(study level)	.002	.609	.000	.003	.997
	Year of study	.260	.227	.072	1.145	.253

### A. Dependent Variable: Self- Monitoring

#### 3.2. Correlation

Based on data correlation analysis (Pearson's correlation coefficient), it was found that the relationships between the overall indicators of locus of control, self-ownership, and resilience are significant (see Table 4).

1. There is a strong negative correlation between locus of control and self-monitoring ( $r = -0.780$ ;  $p < .01$ ).
2. There is a negative correlation between resilience and locus of control ( $r = -0.242$ ;  $p < .01$ ).
3. There is a positive correlation between self-monitoring and resilience ( $r = 0.262$ ;  $p < .01$ ).

**Table 4.** *Correlations Between Locus of Control, Self-Monitoring, and Resilience*

	<b>Locus of Control</b>	<b>Self-Monitoring</b>	<b>Resilience</b>
<b>Locus of Control</b>	1	-,780	-,242
<b>Self-Monitoring</b>	-,780	1	,262
<b>Resilience</b>	-,242	,262	1

\*\*  $p \leq .01$ ; \*  $p \leq .05$ ; \*\*\*  $p \leq .001$

#### 4. Discussion

Based on the data obtained during the research process, it was revealed that the self-monitoring rate of male respondents is higher compared to female respondents. This means that the differences are statistically reliable. However, hypothesis 5 was not confirmed. From the data analysis, it was also determined that according to age and marital status, no statistically significant differences were revealed on the self-monitoring research scale. Nonetheless, it should be noted that statistically significant differences were found on the self-control research scale according to the level of study. The increasing trend of the self-monitoring index was also revealed along with the increase in the level of education on the self-control research scale. In particular, compared to bachelor students, master's students have a higher rate of self-monitoring, and doctoral students have a higher rate than master's students.

As a result of the data analysis, it was determined that 63.6% of the female respondents included in the study are internal and 36.4% are external. Conversely, 74.1% of the male respondents are internal and 25.9% are external. The differences are not statistically reliable. Although the gender balance is disturbed, hypothesis 3 of the paper indicates that it has been partially confirmed. On the mentioned scale, based on marital status, a statistically insignificant difference was revealed. Furthermore, the externality with marriageable undergraduate students was revealed at a very low rate. A slightly higher level of internalization was also revealed among the married undergraduate, graduate, and doctoral students involved in the study. Based on the data analysis, it was determined that the level of learning is negatively correlated with the locus of control. The higher the level of learning, the lower the locus of control. 62.4% of undergraduate students, 70.0% of graduate students, and 80.0% of doctoral students have a low locus of control (internal). However, the differences are statistically reliable. 70.3% of first-year students, 60.4% of second-year students, 68.6% of third-year students, and 63.6% of fourth-year students are internal. 29.7% of first-year students, 39.6% of second-year students, 31.4% of third-year students, and 36.4% of fourth-year students are external. The differences are statistically reliable.

56.0% of the female representatives and 85.2% of the male representatives have a high indicator of resilience on the Brief Resilience Scale (BRS). The differences are statistically reliable. Thus, hypothesis 6 was confirmed. Statistically reliable differences were found according to the level of study on the Brief Resilience Scale (BRS). The higher the level of education, the higher the resilience rate. In particular, 54.8% of the bachelor students, 67.5% of the master's students, and 93.3% of the doctoral students have a high resilience rate. Hence, hypothesis 4 was confirmed. Statistically insignificant differences were revealed on the Brief Resilience Scale (BRS) according to the year of study. 59.5% of first-year students, 61.4% of second-year students, 64.3% of third-year students, and 45.5% of fourth-year students have a high resilience rate.

A linear regression analysis revealed that the locus of control scale explains 29% of the data variability (significant predictors are stability; year of study), the stability research scale explains 38% of the data variability (significant predictors are self-monitoring; locus of control), and the self-monitoring scale explains 41% of the data variability (significant predictors are stability; gender). Based on the correlation analysis, it was revealed that the locus of control has a negative relationship with resilience. Specifically, the lower the locus of control (internality), the higher the resilience. Also, the higher the locus of control (externality), the lower the stability rate. The results further revealed that the resilience rate of internal students is higher compared to external students. Therefore, hypothesis 1 was confirmed. According to the correlation analysis, it was determined that students who had a high level of self-monitoring also had a high level on the Brief Resilience Scale (BRS). Thus, hypothesis 2 was confirmed.

## **Conclusion**

The aim of this paper was to determine the relationship between the locus of control and self-monitoring to resilience with undergraduate, graduate, and doctoral students based on the analysis of the obtained data. It was determined that:

- The rate of self-monitoring among the male undergraduate students is high;
- Self-monitoring is lower among bachelor students and higher among doctoral students.
- Bachelor students, alongside master's and doctoral level students who participated in the research are internal.
- The resilience rate increases depending on the level of study (it is relatively low with bachelor students, higher with master's students, and highest with doctoral students).

- In terms of gender, the resilience is different and higher with male respondents.
- Internal students have a higher resilience rate than students with high self-monitoring.

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