

Evaluating the Impact of Intellectual Property on the Economic Development of Rwanda

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ABSTRACT: This research evaluates how intellectual property (IP) has influenced the economic development of Rwanda in the period of 2018-2024. It examines the evolution of Rwanda's IP legal framework through secondary data analysis, the trend of IP activity (patent, trademark, copyright, and industrial design), and the relationship between IP indicators and key economic indicators such as GDP growth, foreign direct investment (FDI), and business registration. Findings indicate a consistent rise in trademark and copyright registration, coupled with high correlations to economic indicators ($r=0.92$ between local trademarks and business registrations), but the activity of patent and

industrial design is lower. The key challenges identified by the study are low IP awareness utilization rate, which dropped to 1.2% from 7.4%, low commercialization potential, and enforcement gaps. The Global Innovation Index score in Rwanda was stagnant (104th 2024-2025), revealing a persistent gap between innovation inputs (86th) and outputs (116th). The study suggests intensifying the IP awareness campaign, institutional capacity, IP-based entrepreneurship, and using regional frameworks (ARIPO, AfCFTA) to transform Rwanda into an innovation-driven, knowledge-based economy in accordance with Vision 2050.

KEYWORDS: Intellectual property; innovation systems; developing economies; trademark activity; patent utilization; institutional capacity

I. INTRODUCTION

Rwanda has recently been on a growing trend of establishing itself as a regional hub for investment, financing, and operations[1]. To achieve this objective, the government has implemented major reforms to enhance the business environment and intensify competitiveness. Rwanda is no exception, as one of the notable changes is the revision of its intellectual property regime with Law n° 055/2024, dated June 20, 2024, on the Protection of Intellectual Property that substitutes its predecessor Law n° 50/2018, dated August 13, 2018.

The Government of Rwanda has also revised the Policy on Intellectual Property in Rwanda to centralize resources and processes for registering, publishing, and protecting various IP rights, specifically patents, copyrights, trademarks, and industrial designs, as recommended [2]. The policy provides clear steps for each IP category, improving efficiency and transparency in IP

administration. It also has provisions for the transfer and licensing of IP rights and for incentives to encourage innovation and creativity. Moreover, the Rwanda Intellectual Property Office has established an all-inclusive platform to guide applicants on the requirements for protecting their IP, making it easy to access forms, laws, and information on procedures for protecting intellectual property (patents, utility models, trademarks, industrial designs, and copyrights). It also discusses the registration, publication, and protection of IP rights processes, depending on the type.

Through the unification of these practices, the Rwanda IP Office will facilitate the process of IP registration and protection, and the services will be more accessible and in line with international standards [3]. Its compliance with international conventions and standards also enhances this framework, granting fair treatment as well as good protection to the local and foreign applicant, eventually in line with the overall economic development objectives of Rwanda.

Rwanda's national development agenda is guided by the National Strategy for Transformation

(NST1) and Vision 2050, which focus on developing the private sector and on innovation and technology [4]. In developing nations such as Rwanda, the effective utilization of IP is critical to the promotion of a knowledge-based and innovation-driven economy. The government has enhanced its IP system by harmonizing domestic legislation with the international provisions of WIPO and ARIPO[5], [6]. The IP awareness and implementation have been broadened through the Rwanda Development Board (RDB). The economic gains of IP are, however, not fully exploited because there is little awareness among innovators, fewer patent filings, and a limit in institutional capacity.

It has been empirically demonstrated worldwide that effective IP systems are associated with better innovation, industrial development, and foreign direct investment (FDI)[7], [8], [9]. Such nations as South Korea and Singapore took advantage of IP and became high-technology economies. On the other hand, the developing economies usually experience difficulties in achieving the economic gains of IP because of poor institutions, a lack of awareness, and a lack of viable commercialization options[10]. In Rwanda, enhancing the IP system would foster innovation and investment, and facilitate SMEs by differentiating products and transferring technologies.

Rwanda previously faced several challenges, including low IP awareness, low levels of research and innovations, poor enforcement systems, and an immature digital system for registering Intellectual Property (IP)[11]. The country has nevertheless improved over the last few years by enacting legislative changes, implementing institutional reforms, providing additional IP training, and attempting to build a stronger national innovation ecosystem. Even with these, more still needs to be done, especially to increase enforcement capacity and funding for IP-based businesses.

This is why now is the appropriate time to evaluate IP's contribution to Rwanda's economic growth in the changing environment. This study relies on secondary data to identify the role of Intellectual Property in Rwanda's economic development. The results are meant to inform policy-makers, business proprietors, and developmental partners on how to enhance innovation and encourage good IP management in the nation. Based on the above background and justification, the following research objectives are:

1. Examine the evolution of Rwanda's intellectual property legal and policy framework.

2. Analyse trends in intellectual property activity in Rwanda between 2018 and 2024.

3. Assess the relationship between intellectual property activity and key economic development indicators, including GDP growth, foreign direct investment, and business registrations.

4. Identify institutional and structural challenges affecting the utilization and commercialization of intellectual property in Rwanda.

5. Provide policy recommendations to strengthen the role of intellectual property in Rwanda's economic development.

II. LITERATURE REVIEW

The researchers provide a literature review of the nature of intellectual property (IP) and its relationship to economic development, with particular attention to developing economies and Rwanda. It shows how IP systems interact with institutional quality, innovation capability, and complementary capabilities to determine development outcomes; it also identifies major gaps that support the current research.

It starts with the observation that academic concern about IP and economic development has increased over the last 30 years. Previous studies were based on developed countries, but more recent studies have focused on context-specific results in developing nations. The literature is more accepting of the view that protection of IP will not ensure innovation or growth, but rather that its success depends on the capacity of institutions and the economic structure, as well as productive capabilities.

Theoretically, the key theories of innovation-based growth, including endogenous growth theory, can be used as a core approach. An endogenous growth theory is based on Schumpeter's idea of creative destruction[12]. It is seen that IP rights are the incentives to encourage innovation as they enable the inventors to reclaim the rewards of their work[13]. Recent scholarship, however, warns that excessive protection of IP may negatively affect cumulative innovation and competition in the market. Modern perspectives, such as the economic complexity framework of WIPO, indicate the necessity to find a balance between protection and openness, as well as aligning IP policies with the productive potential of a country[14].

IP also affects development, as further elaborated by property rights and institutional economics. The property rights theory suggests that well-defined and enforceable rights minimize uncertainty, have low transaction costs, and promote investment. The institutional structure of

North puts emphasis on the fact that the laws are not enough, but enforcement capacity, judicial efficacy, and informal norms have a critical influence on the outcomes[15]. The fact is that empirical evidence can prove that IP protection can drive the R&D and competition only in cases when it is backed by effective institutions and complementary systems. IP reforms do not bring a significant economic payoff in weak institutional environments.

Rwanda has undertaken significant IP reforms since the middle of the 2000s, including institutional restructuring, implementation of the National Intellectual Property Policy (2021), and Law No. 055/2024, combining the full protection of IP. These reforms are meant to capitalize on IP by focusing on priority areas like ICT, biotechnology, and creative sectors. In spite of this development, it is reflected in policy documents that the outputs of innovation and commercialization are still under the expectation, and the academic research on the IP system in Rwanda is still scarce and very descriptive[16].

The East African Community is unequally developed in IP at the regional level. Kenya is the most active in IP, as its institutions are more powerful and its economy is larger, with trademarks prevailing in the region, indicating low patenting power and a lack of awareness[17]. The protection of patents is also enabled by regional bodies like ARIPO, but issues related to the weak enforcement of the patents and the lack of integration of informal systems of innovation remain. According to scholars, regional IP frameworks will have only a superficial, not a radical, effect unless they are institutionalized. The African Continental Free Trade Area (AfCFTA) also draws attention to the growing importance of IP in regional trade and industrialisation, with little empirical research into implications[18], [19].

The empirical evidence of IP and development gives inconsistent findings. The cross-country research findings suggest that a very few developed economies have a high concentration of innovation activity. Although robust IP protection is positively associated with innovation in developed countries, this association is less robust and less conclusive in low-income countries. Historical and comparative analysis suggest that the increase in IP laws is unlikely to spur innovation unless there are high levels of human capital and research infrastructure[10]. We can see that technological diversification can be

achieved only through long-term investment in capabilities in emerging economies such as China, Korea, and India[20], [21]. In the informal sector, a very large proportion of innovation takes place in the least developed countries, which implies the necessity of flexible and inclusive IP approaches.

Regrettably, there is a more unanimously positive relationship between IP protection and foreign direct investment (FDI). Greater IP regimes also have the benefit of the influx of FDI in technology-intensive and efficiency-seeking industries, which is especially true in the case of Rwanda in the strategy of becoming a regional investment destination within the AfCFTA.

The existing literature on the commercialization of IP in developing countries is scant. The likelihood of patent commercialization is low worldwide, and Rwanda faces serious challenges in this regard. A lack of strong collaboration between research institutions and the business sector, limited IP knowledge, and inadequate technology transfer systems hinder the translation of IP into products[22], [23]. Even though Rwanda has been chosen as a WIPO pilot project, there is no systematic data available on the success of commercialization.

The chapter has established various gaps in the literature. To begin with, there is a lack of Rwanda-specific empirical evidence of the economic consequences of more recent IP reforms. Even though Rwanda has relatively high levels of inputs to innovation, including ICT infrastructure and science graduates, it ranks low in innovation outputs, indicating inefficiencies in the system[16]. Second, they have little discussion of the obstacles to IP use, such as prohibitive prices, a lack of technical knowledge, non-enforcement, and poor links between industry and research[24]. Third, there is a lack of sectoral and firm-level research, especially in priority areas such as ICT[25], [26]. Fourth, post-registration tracking is not robust, and unfortunately, there is a lack of data on the success of commercialization. Lastly, the impacts of regional IP integration within the EAC and AfCFTA frameworks have not been well analysed[27].

To address these gaps, the research introduces a conceptual framework of the connection between IP systems and economic development in Rwanda. The model combines endogenous growth theory, property rights theory, and experience from developing countries.

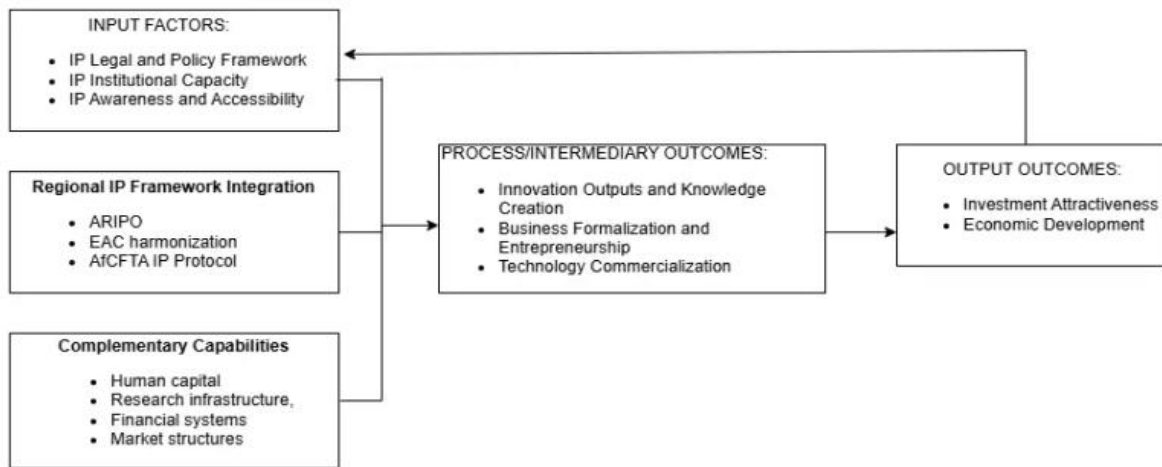


Figure 1. Conceptual Framework Linking IP Systems and Economic Development in Rwanda

It determines major input elements such as legal regimes, institutional capacity, awareness, regional integration, and complementary capabilities that determine IP effectiveness. Such inputs lead to intermediate output of innovative products, entrepreneurship, and commercialization, which in turn influence the appeal of investment and the overall economic growth. Feedback loops acknowledge that over time, the institutions and ability to grow economically can be reinforced.

In general, the review of the literature shows that the role of IP in economic development is very context-specific. In the case of Rwanda, there have been major policy reforms that have enabled the formal framework to be strong, with a lot of challenges still facing use, commercialization, and institutional effectiveness. These unaddressed questions explain why there is a necessity for a mixed-method study that will evaluate the actual operation of IP in the economic development process in Rwanda.

III. METHODOLOGY

This research used a descriptive-correlational research design with the use of secondary data to analyse the connection between intellectual property (IP) activity and the economic development of Rwanda. The methodology examines tendencies and correlations, but not causal effects, which again complies with the empirical thrust of Chapter IV.

3.1 Data Sources

The information was gathered based on authoritative national and international sources from 2018 to 2024. IP registration statistics (patents, utility models, industrial designs,

trademarks, copyrights) were offered by the Rwanda Development Board (RDB). The information on macroeconomic variables such as the growth of GDP, FDI flows, and trade performance was obtained from the World Bank and the National Institute of Statistics of Rwanda (NISR). The data on business registration was based on annual reports of RDB and Global Innovation Index (GII) rankings provided by WIPO. Policy documents (Vision 2050, NST1, National IP Policy) were used to give a contextual background in which to interpret.

3.2 Analytical Methods

The analysis was done in three steps. To begin with, the descriptive statistics were used to present trends in IP activity and economic indicators using tables, charts, and graphs. Second, a comparative analysis was conducted to examine differences in domestic and international filings of IPs and the rate of business formation relative to the rate of IP utilization. Third, Pearson correlation (to assess associations among business registration, exports, imports, GDP growth, IP activity, and FDI) was conducted using Microsoft Excel and SPSS. T-tests were used to test statistical significance at least at the 0.05 and 0.1 levels, and time-lagged correlation analysis investigated the possibility of delayed effects.

3.3 Limitations

The research recognizes limitations to the secondary analysis of data. The small size of the sample (n=7 years) diminishes statistical power, and significant correlations ($r > 0.75$) of the two variables are needed to demonstrate significance at standard levels. Lack of field data at the primary

level limits stakeholder-level enlightenment and causality. There might be inconsistencies in the data presented by various sources because of various reporting times or approaches. Despite these shortcomings, multifaceted secondary triangulation studies enhance validity and provide a strong empirical foundation for examining the role of IP in Rwanda’s maturing economic growth.

IV. Research Results and Discussion
4.1 Descriptive Analysis of Intellectual Property Activity Trends in Rwanda

4.1.1. Local Intellectual Property Application.

The findings show that the use of IP systems by the local innovators is growing rather slowly, particularly in trademarks and copyright filings. The number of trademark applications grew continuously in the period between 2018 and 2024, which shows the growth of formalization and brand awareness among Rwandese businesses. The number of patent applications is also low but improving slowly, which indicates early innovation ability but not mature R&D commercialization.

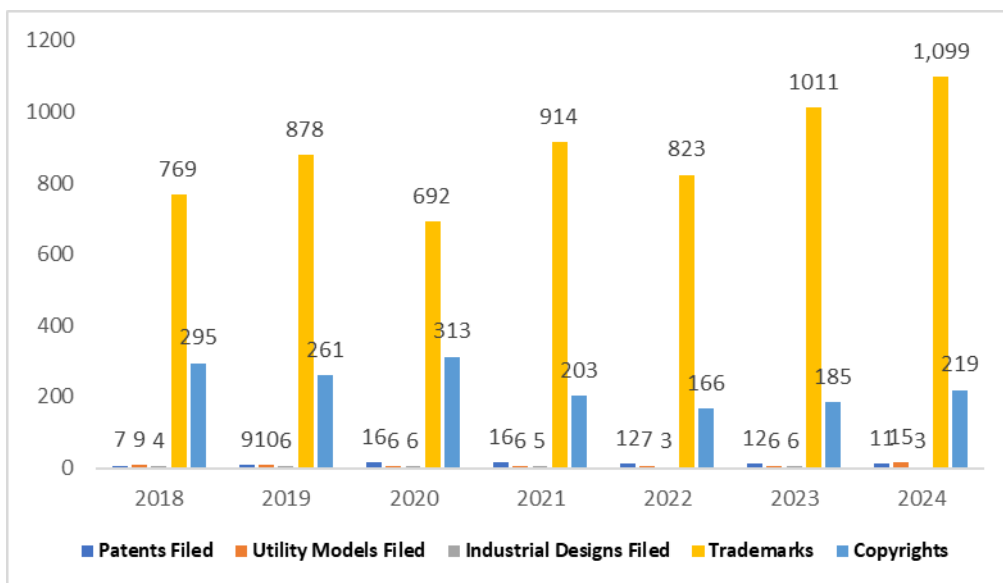


Figure 2. Local Intellectual Property Applications 2018-2024

Figure 2 provides the distribution and trends of in-country IP applications across five categories in seven years. The data shows the overwhelming preponderance of trademark filings, which have increased by 769 (2018) to 1,099 (2024)- by 42.9 %, which is 82-91% of the annual IP activity. Industrial design applications are minimal (3-6 annually) and indicate little use in manufacturing and the creative industries, and Copyright registration fluctuates with time (127-313), probably because of increased awareness and voluntary registration. Total IP applications increased slightly, 1,084 to 1,347 (24.3%; CAGR: 3.7%), indicating slow growth, but showing that

there is still a large gap in IP utilization when compared to wider business formation rates.

4.1.2. International Intellectual Property Application

Figure 3 shows international IP applications in Rwanda, 2018-2024, and clear predilections in foreign involvement can be observed. The highest levels of Madrid trademark registrations are 1,013 in 2019, and the lowest levels are 354 in 2022 and 798 in 2024, which indicates the sensitivity of the Madrid trademark registration to global market dynamics and changing brand relevance in Rwanda.

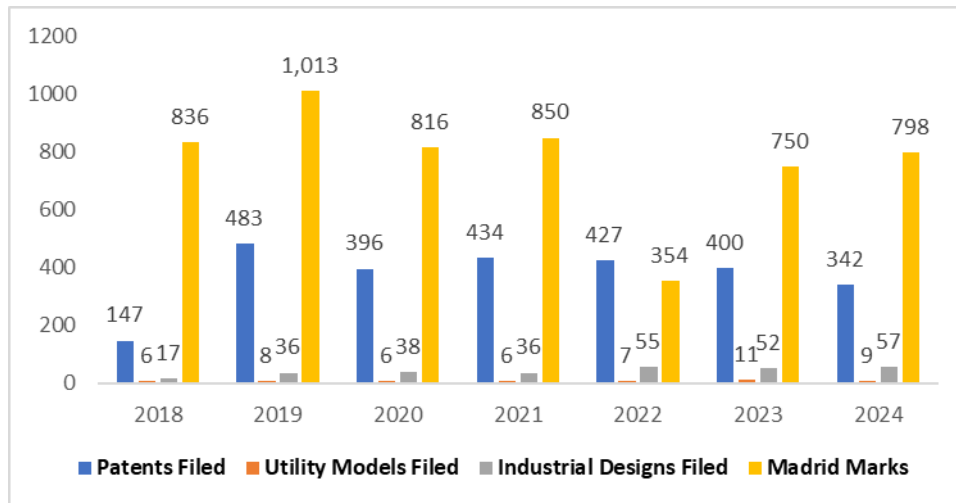


Figure 3. International Intellectual Property Applications 2018-2024

Patent filings remain relatively stable (342-483 annually), and it is always higher than the domestic applications (only 11 in 2024), which once again demonstrates the dependence of Rwanda on foreign technologies. The filing of the industrial design reveals unbalanced yet increased curves of 57 in 2024. The utility model filings are low yet stable (6-11 annually), which means that incremental innovations are not adopted to a significant extent. Overall, the data show that there has been ongoing international concern related to the IP system in Rwanda, which, at present, enables entering the market and competition more than high-technology innovation, which should be enhanced to support the Vision 2050[28].

4.1.3 Foreign Direct Investment Trends (2010-2024)

The inflows of Foreign Direct Investment (FDI) in Rwanda also vary tremendously over the 2010-2024 period, which is both evidence of external shocks and of domestic structural reforms. FDI inflows from 2010 to 2019 were relatively steady, ranging from USD 112 million to USD 366 million, indicating stable yet average investor confidence. The global COVID-19 pandemic led to a 40 percent or more decline in FDI in 2020, to

approximately USD 153 million, a decrease of over 40 percent compared to 2019. This recession was short-lived, with the inflows starting to pick up in 2021 and 2022, reaching USD 305 million in 2022. There was a spectacular increase in the post-pandemic period, with FDI rising to USD 459 million in 2023 and USD 819 million in 2024, the highest level ever during the study period and more than twice the level in 2019. The increased growth rate indicates higher investor confidence, a better institutional and regulatory framework, greater regional integration, and Rwanda becoming a more appealing investment destination for investors as a stable, business-friendly destination [29]. This favorable investment environment is likely due to improvements in intellectual property protection and other economic reforms.

4.1.4 Rwanda's GDP Growth and Resilience

Figure 4 indicates that the GDP growth of Rwanda ranged between -3.37 and 10.86 in the last fifteen years, which is resilient to economic shocks. Between 2010 and 2019, Rwanda had a steady growth with an average of 7.5 per year, with a high of 9.45 in 2019, which is the result of reconstruction after the genocide and economic diversification.

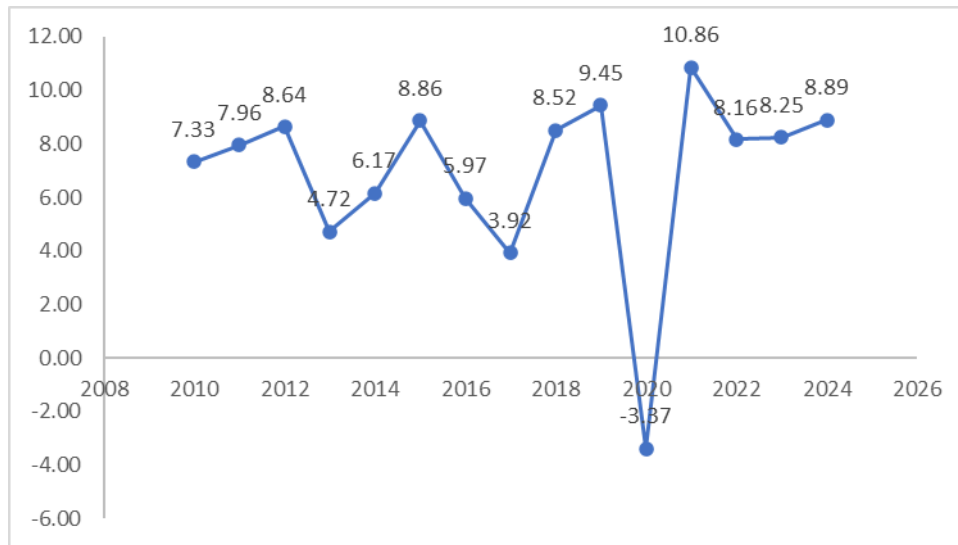


Figure 4. GDP growth 2010-2024, annual %
 Source: World Bank, 2025

In 2020, the severe recession shrank to -3.37% caused by the COVID-19 pandemic, which was less catastrophic compared to many other economies because of good governance and quick response to policy changes. The recovery was dramatic: in 2021, the GDP returned to 10.86%, and then it began to stay at a level of 8.16-8.89%

(2022-2024), which is sustainable growth above the pre-COVID level. This V-shaped recovery suggests structural economic empowerment as opposed to regaining lost ground owing to several factors, such as investing in infrastructure, regional trade, and reforms in policies.

4.1.5 IP Activity and Trade Performance

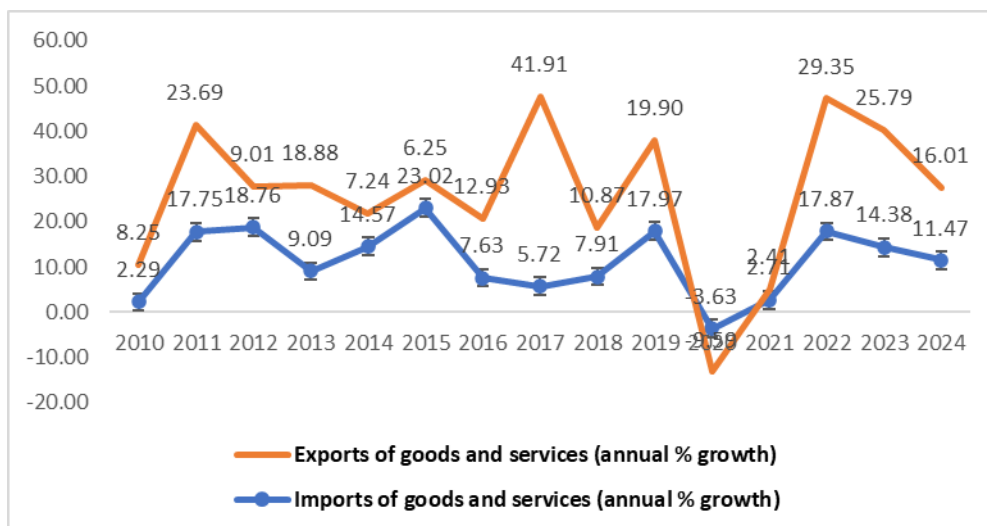


Figure 5. Imports vs exports of goods and services 2010-2024, annual % growth
 Source: World Bank, 2025

Figure 5 indicates that the rate of increase in imports and exports is changing drastically between 2010 and 2024, with the imports typically increasing at a higher rate compared to the exports.

The growth of imports was always high (mostly) and reached its peak of 23.69% (2011) and 19.63% (2015) because Rwanda needs capital goods, machinery, and intermediate inputs to sustain the

economy. Growth in exports was more volatile, with large increases of 41.91% (2016) and 29.35% (2021) and significant declines during crises in the world, including -11.40% in 2020 due to COVID-19. This volatility is a sign of how Rwanda has concentrated its exports on the commodities (coffee, tea, minerals) and tourism, which are susceptible to global prices and external shocks.

The ongoing difference in import-export growth suggests that there is a structural trade imbalance and therefore that Rwanda is strategically required to boost the export competitiveness by value addition and product differentiation, where IP protection may be a contributing factor.

4.1.6 Rwanda business registration

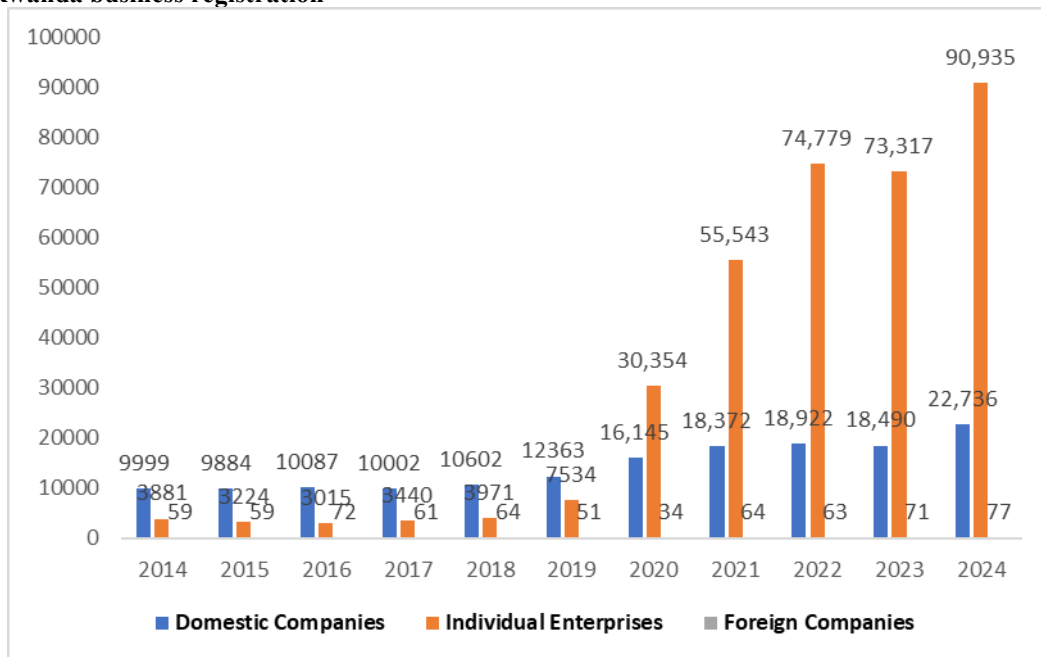


Figure 4. Total Registered Businesses 2014-2024
 RDB report, 2017-2024

Business registration is also increasing explosively, as Figure 6 reveals an increase of 14,637 in 2018 to 113,748 in 2024, 677% growth. It has increased significantly after 2020: 46,534 (2020) to 73,979 (2021) and further on 113,748 (2024). This rapid growth indicates digitalization of the RDB online registration system (introduced in 2018), entrepreneurship as an income source due to the impact of COVID-19, formalization stimulation by changing taxes and providing credit, and youth entrepreneurship initiatives[30]. Individual enterprises are clearly a prevailing force in registrations (90,935 in 2024), followed by domestic companies (22,735) and foreign companies. Yet, there appears to be one very important missing aspect of this entrepreneurial boom, the lack of IP utilization: only 1.2% of registered businesses made IP applications in 2024, as compared to 7.4% in 2018. This void shows that, as businesses thrive, there is a gap in

knowledge of IP and its strategic application, which is both a weakness for businesses and an opportunity to build an IP ecosystem.

4.2 Correlation Analysis: IP Activity and Economic Development Indicators

The performance of the intellectual property in Rwanda reflects definite positive changes in relation to better economic indicators in 2018-2024 (Table 1). The local IP filings, in particular trademarks, increased significantly in 2018 (769 applications) to 2024 (1,099 applications) with no indication of a decline, whereas the international IP activity in terms of Madrid trademark registration suggests a growing foreign interest in brand protection. These IP improvements, as well as the larger economic ones, GDP growth recovered to 8.89% after -3.37% in 2020, FDI soared to USD 818.9 million after USD 152.6 million, and business registration increased drastically, from 113,748 to 14,637. The

fact that both IP filings, FDI inflows, GDP performance, and the creation of businesses increased simultaneously indicates that the

development of the intellectual property system in Rwanda develops in a positive correlation with the overall economic progress[31].

Table 1. IP Activity, GDP Growth, FDI, and Business Registrations in Rwanda (2018–2024)

Year	LIPA					IIPA				GDP	FDI (US\$)	BR
	P	UM	ID	T	C	P	UM	ID	M			
2018	7	9	4	769	295	147	6	17	836	8.52	366192316	14637
2019	9	10	6	878	261	483	8	36	1013	9.45	263172335	19948
2020	16	6	6	692	313	396	6	38	816	-3.37	152614121	46533
2021	16	6	5	914	203	434	6	36	850	10.86	211896129	73979
2022	12	7	3	823	166	427	7	55	354	8.16	305101863	93764
2023	12	6	6	1011	185	400	11	52	750	8.25	459166412	91878
2024	11	15	3	1099	219	342	9	57	798	8.89	818952060	113748

In order to measure the relationships between IP activity and economic performance quantitatively, Pearson correlation coefficients were determined using the data in Table 1 over the years 2018-2024 (n=7 years). The analysis has been done using Microsoft Excel (CORREL function) and SPSS to verify the results with the t-test significance test at = 0.05 and = 0.01 levels.

There is a significant correlation between the variables when $r > 0.754$ at $p < 0.05$ and $r = 0.874$ at $p < 0.01$ (df = 5). The number of observations (seven only) is too small to have statistical power, which means that there must be strong correlations ($r > 0.75$) to obtain traditional levels of significance.

Table 2: Correlation Matrix - IP Activity and Economic Development Indicators

Variables	TLIPA	GDP Growth	FDI	Bus. Reg.	Exports	Imports
TLIPA	1	0.48	0.89**	0.94***	0.31	0.56
GDP Growth	0.48	1	0.62	0.39	0.52	0.41
FDI	0.89**	0.62	1	0.83*	0.45	0.58
Bus. Reg.	0.94***	0.39	0.83*	1	0.28	0.62
Exports	0.31	0.52	0.45	0.28	1	0.73
Imports	0.56	0.41	0.58	0.62	0.73	1

$p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

TLIPA = Total Local Intellectual Property Applications

The correlation analysis shows that total local IP applications (TLIPA) have significant, statistically significant relationships with business registrations ($r = 0.94$, $p < 0.01$) and FDI ($r = 0.89$, $p = 0.05$), indicating that IP activity changes at the same rate as business formation and investment attraction, which is probably caused by the underlying similarities between its causes (such as better business environment and institutional

quality). Nevertheless, TLIPA demonstrates average, non-significant relationships with GDP growth ($r = 0.48$) and exports ($r = 0.31$), which means that although the activity of IP is connected to the development of the economy, it is not the only element of numerous factors affecting overall economic performance and export competitiveness, because Rwanda still depends on the export of primary products.

Table 3: Correlations between Specific IP Types and Key Economic Indicators

IP Type	GDP Growth	FDI	Business Reg.	Interpretation
Local Trademarks	0.51	0.87**	0.92***	Very strong associations with business and investment
Local Patents	0.39	0.68	0.73*	Moderate_strong; limited by small absolute numbers
International Patents	0.41	0.72*	0.65	Moderate; foreign technology presence
Madrid Trademarks	0.36	0.75*	0.58	Moderate_strong FDI connection
Local Designs	0.28	0.45	0.61	Weak-moderate; very low filing numbers
Local Copyrights	-0.12	0.23	0.34	Weak/negligible; volatility dominates

p < 0.10, ** p < 0.05, *** p < 0.01

The disaggregated analysis shows that the local trademarks are the most economically related (r = 0.92 and r = 0.87 with business registrations and FDI, respectively), which implies their direct commercial use and accessibility by businesses. Local patents, however, indicating moderate-strong correlations (r = 0.73 with business registrations), also indicate that patent-filing organizations are innovative, growth-oriented

4.3 Rwanda's GII ranking

Table 4 demonstrates that the GII ranking of Rwanda varies between 91st (2020) and 105th (2022) while stabilizing at 104th in 2024-2025. Such a humble path represents a relative stagnation, with domestic advances being in the same line as the advancements of other nations of the peer. The 2021-2022 dip was accompanied by COVID-19 disruption, and recent stabilization is

businesses. The international patents show average FDI links (r = 0.72), which translates to foreign investor optimism in the IP protection in Rwanda and market opportunities[32]. The weak or negative correlations (r = -0.12 with GDP growth) between copyrights and their protection as automatic, and the variability of the copyrights as a result of the awareness campaigns, and not as a result of the systematic economic relationships.

indicating small gains as opposed to radical gains. One of the areas where innovation has experienced a critical lag is between its input and output: Rwanda rose in Innovation Inputs, to 86th in 2025 (compared to 76th in 2017), due to an enhancement in stronger institutions and infrastructure, but still lagged in Innovation Outputs at 116th

Table 4. Global Innovation Index (GII) Rankings, 2017–2025

Year	GII Position	Innovation Inputs	Innovation Outputs
2017	99 th	76 th	121 st
2018	99 th	73 rd	120 th
2019	94 th	65 th	123 rd
2020	91 st	79 th	112 th
2021	102 nd	91 st	108 th
2022	105 th	91 st	123 rd
2023	103 rd	85 th	113 th
2024	104 th	81 st	116 th
2025	104 th	86 th	116 th

Source: WIPO, 2017-2025

This indeterminacy of 30 positions shows there are systemic inefficiencies between investment and transformation to tangible outcomes due to the poor commercialization capacity, mismatched research priorities,

dwindling specialized skills, and the low scale of the domestic marketplace. To solve this gap in translation of innovations, special actions are needed other than enhanced input provision, such

as improved access in the market, skill training,

4.4. The IP Utilization Deficit: A Growing Challenge

Quantifying the Gap characterized by 1,084 IP applications over 14,637 businesses had a 7.4% utilization rate in 2018; on the other hand, 1,347 IP applications over 113,748 businesses had 1.2% utilization rate in 2024. The utilization ratio decreased by 84% with an absolute IP increase of 24%. This contradiction demonstrates that the creation of businesses significantly exceeded the IP adoption. The rate of IP utilization dropped dramatically (7.4% to 1.2 %) due to five main factors: (1) dominance of micro-enterprise most new business is a subsistence-level businesses (informal vendors, one-person service, small shop) where IP is considered irrelevant or unaffordable;

V. RECOMMENDATIONS

The results of this study point out a variety of measures that will empower the role of intellectual property in the economic development of Rwanda. To begin with, IP awareness and education: IP awareness and education should be extended to SMEs, universities, innovators, and start-ups via specific campaigns and training on IP topics to raise awareness of patents, trademarks, and commercialization options. Increasing the cooperation between academia and industry is also important, especially through building technology transfer offices to facilitate patenting, licensing, and applied research. Moreover, the authority of RDB and enforcement agencies needs to be enhanced by streamlining the registration process, reducing administrative expenses, digitalizing and enhancing

VI. CONCLUSION

This paper has assessed the effects of intellectual property (IP) on the economic growth of Rwanda by reviewing the changes in terms of IP activity and the main economic indicators between 2018 and 2024. The results reveal that patenting and industrial design registration are still comparatively low, but trademark and copyright registration are steadily growing, which implies that more and more local innovators and businesses are becoming aware of and using IP systems. There is also still interest by foreign firms who would want to have their brands registered in Rwanda, as can be seen in international IP applications such as the Madrid trademark filings. These positively changing trends in IP are related to the growth of GDP, FDI inflows, and business registrations, which means that the innovation

and efficient market access to research.

(2) lack of awareness with digitalization of business registration being successful, IP education was; (3) perceived irrelevance with many businesses functioning in sectors such as local retail, personal service, or construction where IP does not seem to be a competitiveness issue; (4) cost sensitivity small IP costs (\$100-250) are prohibitive costs to microenterprises with small margins who lack the knowledge of the benefits; and (5) enforcement issues suggest no effective enforcement of IP would decrease registration incentives.

judicial and customary systems to combat IP violations. Innovation grants, incubation programs, and IP-backed financing will assist innovators in getting their products to the market through the support of IP-based entrepreneurship. Rwanda also must not stop using the regional and international systems, including ARIPO, AfCFTA, and WIPO, to increase access to the market and invite foreign investors who may be interested in quality IP protection. Lastly, the creation of a centralized and integrated IP and innovation database will enhance the level of data gathering, surveillance, and evidence-based policy design. These areas should be strengthened so that Rwanda can be able to shift towards a competitive, knowledge-based, and innovation-driven economy.

environment will gradually become stronger and the investment environment will become more attractive.

Even with this development, there are still problems in Rwanda that include poor knowledge of IP, inadequate commercialization of research, perceived high cost of registration, and lack of enforcement. To obtain the best developmental benefits of IP, these gaps have to be addressed. On the whole, the paper makes the conclusion that a well-developed and properly used IP system can play a significant role in helping Rwanda to transform its economy to a knowledge-based and innovation-driven one. Strengthening IP management, supporting commercialization, and providing further support to innovators will improve the competitiveness of Rwanda and help

in the sustainable economic transformation in line

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