

## **TRANSPORT INFRASTRUCTURE INVESTMENT AND PERFORMANCE OF MICRO ENTERPRISES: A QUALITATIVE PARADIGM**

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### **ABSTRACT**

*The government's current focus on the rail sector has elicited varied sentiments and reactions from the public. Scholars disagree on how much they think the investment will help microbusinesses. Using this as a starting point, the authors aimed to explain how investments in Nigeria's transport network affected small businesses. Because of the reliance on in-person interviews, the research took a qualitative approach. In the research on the impact of rail transport infrastructure investment on microenterprises in Nigeria, two main themes emerged: market growth and wealth generation. The study advocates for increased investment in developing countries' rail sectors, which confirms the importance of transport investment beyond macroeconomic dynamics.*

**Keywords:** Transport, Infrastructure, Investment, Micro enterprises, Nigeria

### **INTRODUCTION**

In addition to serving as a key component of urban and regional development programmes in many countries, investing in transport networks has proven to be an important strategic tool for promoting economic advancement. A number of regional and local issues, such as the promotion of new geospatial economies, have found solutions with this design device (Ali et al., 2015). An efficient transport network reduces manufacturing times and costs, streamlines regional groups, and enhances national connectivity. Funding improvements to the nation's transport network can spur growth in a number of sectors, which in turn boosts the

economy as a whole. Conversely, the economy can take a hit if the transit system isn't well-built.

It is still difficult for decision-makers to determine whether investing in transport infrastructure is a cost-effective way to improve urban areas and regions. Transportation infrastructure includes things like roadways, harbours, trains, and airports. The research report mainly focuses on the train line. Investments in railway transportation facilities could have significant economic benefits, especially for developing nations. On the other hand, transport infrastructures continue to have substantial physical and social consequences. There are a number of

economic returns that determine how profitable investments in rail transport networks are overall. It appears that collecting scientific evidence about such economic repercussions is vital for transportation plan selection and for making prudent funding choices for transportation infrastructure.

Transport investment has major positive socioeconomic effects that benefit consumers and the economy as a whole (Bannister & Berechman, 2001). Lower trip expenses due to improved transport facilities actively benefit consumers (De Palma et al., 2011), while a shift in the geographic allocation of economic activity indirectly benefits the economy as a whole (Hong, Chu, & Wang, 2011). Evaluating the effects on economic efficiency necessitates looking at consumer benefits in addition to broader economic gains (production, investments, and jobs), because, according to relevant research, improving transport facilities has a very wide range of effects (Venables, Laird, & Overman, 2014).

Transit networks provide accessibility, facilitating job opportunities, and enhancing communication between businesses and their customers. But almost all investments in transit infrastructure will pay off in the end. In actuality, badly constructed transport infrastructure may have a negative impact on both society and the economy. While these benefits do get some attention, the focus of this research is on the more basic microeconomic benefits of rail transport infrastructure.

The bulk of the existing literature on the topic of transport facilities' total economic impact is at the macro level, and it mainly examines the advantages to users of transport network investments. Only a small number of studies have looked at how better rail transport infrastructures affect companies' bottom lines. Furthermore, research on the wider economic advantages

(employment and productivity) of microeconomic transport facilities in developing countries, especially Nigeria, is lacking. This information vacuum necessitates the development of a plan to evaluate transport investments, taking into account their wider economic effects. Of course, further study is required to evaluate the user benefits of Nigeria's transport infrastructure improvements.

Many developing countries, like Nigeria, consider improvements to their transport networks as a way to level the playing field economically, reduce poverty, and reduce inequality. The increased national focus on railway transport explains the present increase in investments in this mode of transport. We intended to address pressing issues such as commerce, deteriorating metropolitan roadways, congestion, structural disparities, rising unemployment, and connectivity between urban and regional communities by increasing funding for the building of rail transport infrastructure.

However, whether or not a large investment in rail transport facilities will enhance corporate efficiency and lead to improved overall output is still uncertain. The mixed results of theories and empirical studies of the final conclusions of investment opportunities in transportation facilities make it difficult to draw any firm conclusions about the influence of these facilities and make decisions about how to value transportation connectivity investments (Redding & Turner, 2015).

Also, the exact amount to which investments in rail transport infrastructure significantly increase total company efficiency and production is still a mystery. Now more than ever, officials need better and more convincing scientific evidence to guide their investment decisions in railway transportation systems. Consequently, this article made a concerted attempt to explain how investments in transport (rail)

infrastructure might affect the productivity of businesses across Nigeria.

### **THEORETICAL AND HYPOTHESES DEVELOPMENT**

Due to variations in the amount and quality of many production-related variables, theories of economic growth examine the evolution of a specific industry (Stern & Cleveland, 2004). Another point brought up by the experts is the fact that these inputs are employed in different ways. However, these aspects apply differently from one another. We can express yield, also known as total productivity, using the following formula: We denote a function that shows production as  $Y = F(K, L)$ , where K represents capital and L represents labor. Investment and depreciation drive up capital, which in turn drives up labour demand, which in turn drives up the source of human population growth, and vice versa. According to this theory, production develops at a slower rate as investment accumulates (Stern & Cleveland, 2004). According to the model, the occurrence of proliferation is a complex process at work in the occurrence of proliferation, and it all depends on a number of critical variables. A handful of these factors include research and development, technology, investment, convergence potential, and institutional structure (Werle, 2012). According to economic theory, if infrastructure stocks, for instance, were to increase, it would have a multiplicative effect on the economy's production and lead to growth. According to Perking et al. (2005), this economic model demonstrated the theory's significance in the study. Expansion is defined by several scholars in terms of components of fundamental output functions that include service providers and commodities, with manufacturing factors usually being favourable predictors of total output (Perking et al., 2005). This implies that the utilization and maintenance of more

production factors leads to economic advancement. The neoclassical growth model postulates that the ever-increasing benefits of new information and technological developments drive continuous economic progress (Stern & Cleveland, 2004). The argument's central claim is that it can grow its economy by investing in people's brainpower rather than their physical labour. Funding the entire development of new knowledge is critical to expansion, according to the neoclassical perspective of growth's principles (Yadav & Siraj, 2014).

### **Transport infrastructure**

In order for a country's economy to run smoothly as a whole, infrastructure is crucial (Redding & Turner 2015). Several academics have also defined infrastructures, such as power, roads, bridges, tubes, and harbours, as part of the capital inventory supporting economic output or as activity resources (Bruzon et al., 2009; Estache & Wren-Lewis, 2012). Rietveld (2012) observes that the traditional evaluation of transport facilities primarily relied on tangible measures and monetary units. When trying to quantify transportation infrastructures, we typically look at their capabilities or inventory to determine their value.

The widespread use of tangible measurements in studies is largely due to their simplicity as a quantitative method of evaluating transport infrastructure. For instance, we often use the railway network's vastness as evidence of its ability to transport people and products. We commonly use currency equivalents to quantify transportation capacity performance and evaluate transportation facilities. This category is often measured by the total amount of money spent on

developing transport infrastructure is a frequent way to measure this category. Depreciating the object to its current value is essential due to its gradual degradation.

Since different investments in transport infrastructure could be just as effectively appraised using the corresponding monetary value, measuring based on monetary units allows comparison of these investments. While monetary and physical units are useful for evaluating transportation facilities' real capacities or inventories, they sometimes fail to account for the many other features that these facilities possess. You cannot tell if a transport facility system is in use just by looking at how long it has been running. A transportation system's capacity for a specific length might also vary according to its condition and characteristics, such as whether it has single or dual tracks. Transportation infrastructure costs may also differ among areas and cities. Because different transport facilities have different building expenditures, it might be misleading to measure transport facilities' assets in monetary terms.

Rietveld (2012) notes that transportation infrastructure intensity is a useful metric for assessing both performance and inventory. This metric's major perk is the ability to compare and contrast investments in transport networks, which also helps to standardise the real performance of transport facilities. Any project involving transport infrastructure must adhere to certain standards, and the intensity evaluation is a common tool for doing just that. These standards can be either geographical or human-based.

To show the amount of stock and the real magnitude of changes in the stock, the three transportation facility metrics mentioned previously might be just as useful. Those measurements, on the other hand, are severely flawed because they ignore the characteristics and overall nature of the transport networks that are already in place. The reliability of these statistics is also contingent on accounted for the dispersion of socioeconomic activity across regions and the general spatial arrangement of transport networks (Rietveld, 2012). Furthermore, while these numbers may show the fundamental capacity of transportation connectivity, they do not show how transportation facilities impact a company's production, the growth of its labour centres, or the value of its land.

Immediate and long-term effects on social structures are the two main types of impacts caused by transport infrastructures (Rietveld, 2012). Because they support temporary construction operations, particularly upgrades to transport infrastructure, which create jobs, interim impacts mainly target the demand side of the economy. Consumer expenditure increases are a direct result of salary increases. Governments often leverage the creation of jobs during the interim phase of projects to stimulate the local economy in the short term.

Even though the primary goal of constructing transport facilities is to improve society and enterprises, these short-term consequences often impact the government's transport strategy and workforce. When the state plans new projects, they give careful consideration to the transport facilities' long-term

effects. Furthermore, transportation facility operations and repairs require significant financial investment, which has a short-term impact on related sectors and jobs.

Enhancements to transport networks have far-reaching effects on ecosystems, human well-being, and regional economies (Bannister, 2015). Transport infrastructure expansion has many negative environmental impacts, including congestion and pollution. The CO<sub>2</sub> emissions from vehicles are a famous example of the damage they cause to the environment. Improvements to people's quality of life are a byproduct of better transportation options, which allow for more opportunities to relax, learn, and connect.

Transport infrastructure improves GDP (Kitchens et al., 2006) by changing the overall efficiency of economic processes, which in turn increases the value of all commodities and services generated in the economy. Improving transit options leads to lower travel costs, which in turn affects GDP. For example, transportation infrastructures enable more people to explore work opportunities by reducing the cost of transit between homes and offices. Businesses also tend to act more productively as a result of better roads, which in turn leads to increased output of goods and services. Investing in transport infrastructure reduces the cost of transporting goods and people between starting points and ending places, thereby benefiting everyone. Reduced travel costs, often referred to as user benefits, benefitted the economy as a whole (De Palma et al., 2011; Venables et al., 2014). The newly constructed transit facilities primarily

benefit the people who use them because they save time and money.

It is well acknowledged that improvements to transport facilities can have a considerable economic impact, although the exact magnitude of these advantages depends on a number of circumstances (Roberts, 1987). Since companies can use the money, they save on transportation to offset costs related to intake factors, like the shipment of raw materials, they are able to reduce their production expenditures as a whole. For instance, firms anticipate economic benefits from new road infrastructure that links producing industries to fresh harbors for the import of unprocessed products. Because of the far-reaching effects that cheaper travel has on the development of the world's transportation infrastructure, the expansion of transportation facilities inevitably causes shifts in the routes already taken by the various modes of transportation.

An improved transportation network influences the strategic concentration of locations. It's likely that employees may alter their personal work schedules in response to the possibility that the quickest route from home to work might differ. There is a direct correlation between the expansion of the transport network as a whole and the addition of numerous new routes to the existing network. Although improved itineraries benefit most people, they do not result in any net advantages to the economy or society.

Jara-Diaz and Friesz (1982) state that businesses and families alter their behaviour in relation to their location within a transport system due to the consumer gains caused by lower travel

expenses. This mostly includes shifts in organizational stance and alterations in landscape utilization. The transformation of localised changes into systemic economic effects occurred as a result of spatial dynamics. Venables et al. (2014) found that although some trends impacted routes, others were involved with economic matters like investment and productivity.

A new rail service, for example, might change the locational coherence of the current channel. Certain locations become highly prized when it comes to having access to materials. To adapt to these changes, companies often moved their operations elsewhere, either to cut costs in production or to increase their economic opportunities. This helped them stay competitive. Also, workers were more amenable to moving to a place that offered more job opportunities and a wider range of attractions (Holmes et al., 2000).

People commonly use a cost-benefit analysis (CBA) to determine the true benefits to individuals. It accomplishes this by estimating and comparing the costs and benefits of transportation facility improvements (Vickerman, R. 2004). CBA commonly employs transportation demand modelling to predict future travel demands and costs resulting from anticipated changes in mobility movements prior to the installation of transportation facilities. An economic model (Halden, 2011) considers the total speed and capacity of transportation network developments to account for changes in passengers' journey expenses.

One important societal consequence of transit facilities is their closeness (De

Palma et al., 2011). The transportation infrastructure allows for a significant concentration of market activity in this environment. As a result, people are able to get around their cities for less money and engage in direct conversations with local merchants. Thanks to transportation networks, companies and their employees have access to a wide range of goods, services, and opportunities. Businesses and their employees rely more and more on transport amenities to communicate and interact as a community grows (Melo et al., 2016). For instance, an unequal distribution of jobs and workers across large towns could greatly benefit people who live far from their places of employment through improved mobility options.

Improvements in the transport network led to higher output, which was the primary emphasis of agglomeration economies' micro-foundation (Graham, 2007). For companies that can ensure a steady supply of workers, this is a sensible strategy because educated workers are still a key factor in production. Travel costs do have a significant impact on the availability of labour as a result of the physical distance between homes and businesses (Bannister, 2015). If transportation costs are too high, for instance, fewer workers may be available to work for their employers. Improvements to transportation networks increase the pool of available workers since they reduce the cost of transportation. Similarly, the development of the transportation system directly correlates with the expansion of the geographic area from which companies can recruit talent.

Improving global transport facilities increases the pool of qualified job

applicants by expanding the geographic area across which economic activity takes place. An increase in the available workforce is mostly attributable to better mobility options. More firms and workers mean more opportunities for manufacturers and customers to meet in an urban setting where commercial activity is on the rise. Competitive performance in the labour market improves when more people can afford to connect with vacant positions and job applicants. The urban clustering method fully explains the connection between the labour market and the probability of matches by assuming that the number of job contests is a function of search tension, which includes the number of available jobs and the number of people looking for work (Petrongolo & Pissarides, 2001).

## METHODOLOGY

Qualitative research approach was adopted to explain the underlying relationship between transport infrastructure investment and overall business efficiency and output. The choice of qualitative approach was the need to ensure that multiple sources of data are utilized to obtain a comprehensive finding of a phenomenon. Thematic and

content analysis approach was adopted. Face-to-face interviews were conducted and this was in absence of the personal opinions and prior experiences, as the focus was to gain new and emerging insights. For ethical purposes, consent form was given to the participants to sign, and purposeful sampling was used to select ten (10) participants covering the planning, investment, and monitoring of rail infrastructural investment and business enterprises in Nigeria that are affected by rail infrastructure in Nigeria. The interviews consisted of semi-structured open-ended questions, which lasted for 6 weeks, a minimum time frame of between 45mins to 1hr. Confidentiality was achieved by assigning alphanumeric code to the study participants.

## RESULT AND DISCUSSION

We used MS word to transcribe the audio-recorded interview material. The study conducted data analysis using the constant comparative approach (Glaser & Strauss, 2012). We categorised the data into themes based on their similarity and their ability to address the study question. Wealth generation and market expansion emerged as two themes from the interview data.

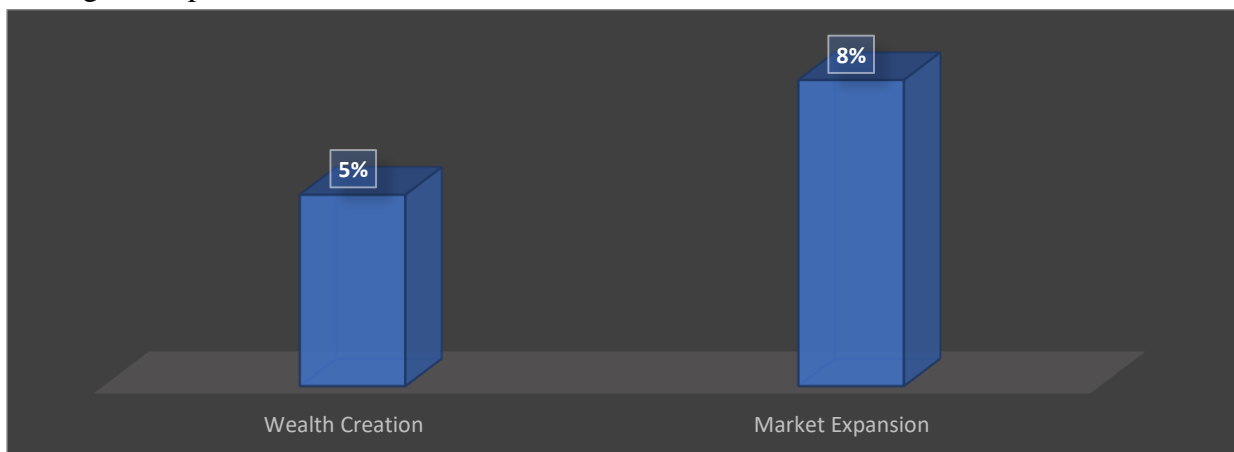


Figure 1. Nvivo 12 pro Analysis on Interviews

Source: Nvivo 12 pro thematic weighting output (2023).

### **Key findings**

Determining the significance of investment in rail infrastructure on micro companies' productivity of micro companies was the primary topic and question that prompted this study. In developing economies where micro-enterprises play a crucial role in growth and development, the existing literature has not adequately addressed this question. In order to answer the research question and achieve the study's purpose, the data analysis revealed a clear picture of why investing in transport infrastructure is important. The consensus among participants regarding the impact of wealth creation and market growth on the productivity of micro-enterprises through investments in transport infrastructure (rail) enabled us to determine the answer to our primary research question.

### **Wealth Creation**

This theme illuminated an expansion of investment opportunities for microenterprises to enhance their performance. Investment in rail paves the way for micro-enterprises to put money into a variety of projects, each of which might bring in capital to help the business grow. When we make investments in rail, we can expand our investment portfolio to meet the demand of our clients (Participant 3).

*"The road system is currently full to capacity, which makes it hard to pursue additional business opportunities that could expand the company's offerings"* (Participant 5).

*"Investing in rail can expand our business*

*and create growth opportunities"* (Participant 2).

### **Market Expansion**

This theme reflects the participants' consensus on the need to invest in rail infrastructure to expand microenterprises' customer bases and boost their productivity. The theme illustrates the influence of rail infrastructure investments on micro-enterprises.

*"We will have the opportunity to reach a larger audience and efficiently promote our products"* (Participant 7).

*"The rail system was an important means of transportation for most international businesses"* (Participant 8).

## **DISCUSSION AND CONCLUSIONS**

The research Examining the impact of investments in transport infrastructure, particularly rail transport, on the productivity of micro-enterprises was the primary goal of the present research. The qualitative research revealed two topics that shed light on the participants' commonalities of view: the expansion of markets and the production of riches. By demonstrating the importance of transport investment, particularly in emerging markets, the study accomplished its aims and answered its research question. In line with previous research by Olsson (2010) and Echui & Keho (2011), the results demonstrate that investment in rail transport infrastructure is a key factor in national growth and business improvement,

particularly in nations going through a transition. The data aligns with Pradhan and Bagchi's (2013) perspective, indicating a connection between investments in rail infrastructure and various other related activities such as wealth creation and enhanced living standards.

According to the study's conclusions, micro-enterprises in Nigeria can't grow their income or access new markets without investments in the country's transport infrastructure, specifically its rail network. According to the report, the Nigerian government should invest more money in the train system, and a public-private partnership would be the best option because it would benefit both the public and private sectors.

In providing an emerging economy viewpoint on the important impact of rail transport infrastructure on the productivity of micro-enterprises, this research adds to the empirical body of knowledge on transport policy and planning. The study fills a need in the literature by focusing on one area—investment in the rail sector—and how it relates to micro-enterprises. The study filled and sealed a gap in understanding of the direct impact of investments in transport infrastructure on microenterprises. Since the focus of this paper is on qualitative methods, future research can adopt a positivist quantitative framework. Potentially useful for future research is the fact that this one did not target any particular age group; instead, it used a more representative cross-section of the population.

## REFERENCES

Ali, R., Barra, A. F., Berg, C. N., Damania, R., Nash, J. D., & Russ, J. (2015).

Transport infrastructure and welfare: an application to Nigeria. *World Bank Policy Research Working Paper*, (7271).

Banister, D. (2015). Great cities and their traffic: Michael Thomson Revisited. *Built Environment*, 41(3), 435–446. <https://doi.org/10.2148/benv.41.3.435>

Banister, D., & Berechman, Y. (2001). Transportation investment and the promotion of economic growth. *Journal of transport geography*, 9(3), 209-218.

Bruzon, M. S., Gandarias, M. L., Torrisi, M., & Tracinà, R. (2009). Some traveling wave solutions for the dissipative Zabolotskaya–Khokhlov equation. *Journal of Mathematical Physics*, 50(10). <https://doi.org/10.1063/1.3204507>

De Palma, A., Lindsey, R., Q., E., & Vickerman, R.W., eds. (2011) *Handbook of Transport Economics*. Elgar Original Reference. Edward Elgar, Cheltenham, 928 pp. ISBN 978-1-84720-203-1. doi:10.1016/S0966-6923(01)00013-8

Estache, A., & Wren-Lewis, L. (2012). Supranational infrastructure regulation: Institutional opportunities and challenges. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2657145>

Graham, P. (2007). Patricia J. Graham. Review of “The Hotei Encyclopedia of Japanese Woodblock Prints” by Amy Reigle Newland. *Caa.Reviews*.

- <https://doi.org/10.3202/caa.reviews.2007.32>
- Halden, D. (2011). The use and abuse of accessibility measures in UK passenger transport planning. *Research in Transportation Business & Management*, 2, 12–19. <https://doi.org/10.1016/j.rtbm.2011.05.001>
- Holmes, T. J., Fujita, M., Krugman, P., & Venables, A. J. (2000). The Spatial Economy: Cities, Regions, and International Trade. *Southern Economic Journal*, 67(2), 491. <https://doi.org/10.2307/1061487>
- Hong, J., Chu, Z., & Wang, Q. (2011). Transport infrastructure and regional economic growth: evidence from China. *Transportation*, 38(5), 737–752. <https://doi.org/10.1007/s11116-011-9349-6>
- Jara-Díaz, S. R., & Friesz, T. L. (1982). Measuring the benefits derived from a transportation investment. *Transportation Research Part B: Methodological*, 16(1), 57–77. [https://doi.org/10.1016/0191-2615\(82\)90041-8](https://doi.org/10.1016/0191-2615(82)90041-8)
- Keho, Y., & Echui, A.D. (2011). Transport Infrastructure Investment and Sustainable Economic Growth in Côte d'Ivoire: A Cointegration and Causality Analysis. *Journal of Sustainable Development*, 4, 23.
- Kitchens, K. M., Kolhatkar, R. B., Swaan, P. W., Eddington, N. D., & Ghandehari, H. (2006). Transport of Poly(Amidoamine) Dendrimers across Caco-2 Cell Monolayers: Influence of Size, Charge and Fluorescent Labeling. *Pharmaceutical Research*, 23(12), 2818–2826. <https://doi.org/10.1007/s11095-006-9122-2>
- Melo, P. C., Graham, D. J., Levinson, D., & Aarabi, S. (2016). Agglomeration, accessibility and productivity: Evidence for large metropolitan areas in the US. *Urban Studies*, 54(1), 179–195. <https://doi.org/10.1177/0042098015624850>
- Olsson, J. (2010). Road investment as enabling local economic development: Evidence from a rural Philippine fishing village. *Singapore Journal of Tropical Geography*, 3, 343–35. doi:10.1111/j.1467.9493.2010.00407.x
- Perkins, P., Fedderke, J., & Luiz, J. (2005). An analysis of economic infrastructure investment in South africa. *The South African Journal of Economics*, 73(2), 211–228. <https://doi.org/10.1111/j.1813-6982.2005.00014.x>
- Petrongolo, B., & Pissarides, C. A. (2001). Looking into the Black Box: A Survey of the Matching Function. *Journal of Economic Literature*, 39(2), 390–431. <https://doi.org/10.1257/jel.39.2.390>
- Pradhan, R.P. and Bagchi, T.P. (2013) Effect of transportation infrastructure on economic growth in India: The VECM Approach. *Research in Transportation Economics*, 38, 139-148.

- <http://dx.doi.org/10.1016/j.retrec.2012.05.008>
- Redding, S. J., & Turner, M. A. (2015). *Transportation Costs and the Spatial Organization of Economic Activity. Handbook of Regional and Urban Economics, 1339–1398.* doi:10.1016/b978-0-444-59531-7.00020-x
- Rietveld, P. (2012). Barrier effects of borders: Implications for border crossing infrastructures. *European Journal of Transport and Infrastructure Research.* <https://doi.org/10.18757/ejtir.2012.12.2.2959>
- Roberts, P. (1987). Financial aspects. *Tourism Management, 8(2)*, 147–150. [https://doi.org/10.1016/0261-5177\(87\)90022-7](https://doi.org/10.1016/0261-5177(87)90022-7)
- Stern, D.I. & Cleveland, C.J. (2004) Energy and Economic Growth. Rensselaer Working Paper in Economics No.0410. Rensselaer Polytechnic Institute, Troy, NY.
- Venables, A, Laird, J.J & Overman, H.G. (2014). *Transport investment and economic performance: Implications for project appraisal.* Research Report. Department for Transport.
- Vickerman, R. (2004). Maintenance incentives under different infrastructure regimes. *Utilities Policy, 12(4)*, 315–322. <https://doi.org/10.1016/j.jup.2004.07.006>
- Werle, S. (2012). Possibility of NOx emission reduction from combustion process using sewage sludge gasification gas as an additional fuel. *Archives of Environmental Protection, 38(3)*, 81–89. <https://doi.org/10.2478/v10265-012-0027-3>
- Yadav, S., & Siraj, S. (2014). Mall Patronage Behaviour: Understanding the Inter-Linkages Between Shopping Motives, Shopper Demographics, and Shopping Behaviour. *Indian Journal of Marketing, 44(11)*, 36. <https://doi.org/10.17010/ijom/2014/v44/i11/80112>