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Full Length Research Paper

Development impact bonds to overcome investors-services providers' agency problems: Insights from a case study analysis

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The paper aims to enrich the academic debate on social impact investing, through a formalization of Development Impact Bonds (DIBs)' structure. With this purpose, the research adopts an inductive approach and presents a case study analysis of the world's first successful DIB in education, Educate Girls Development Impact Bond. The analysis fosters the role of DIBs as tools to provide funds to non-profit organizations operating in developing countries, by reducing agency problems between investors and social services providers, and by mitigating goal displacement effects.

Key words: Development impact bonds, social impact investing, outcome-based contracts, payment-by-results, social finance, pay-for-success, agency problems, non-profit organization.

INTRODUCTION

In the last decade, since the 2008 to 2009 world economic and financial crisis, governments have been often struggling to make sure social services provision. Indeed, when budgetary constraints become pressing, nations opt for austerity policies (Vis et al., 2011) even at the expense of the welfare state. In such a situation, the nonprofit organizations (NPOs) are the only ones able to substitute governments in delivering social services (Joy and Shields, 2013). NPOs are formal, private, self-governing and voluntary organizations that can generate revenues (Froelich, 1999) but not distribute net earnings to those in control (Hansmann, 1980; Salamon and Anheier, 1992). Through their work, governments may reduce public expenses while exploit NPOs' abilities on a

specific social issue (Gazley and Brudney, 2007; Pfeffer and Salancik, 2003) and retain political consensus at the same time (Luksetich, 2007). However, NPOs suffer from a scarcity of funds, especially in developing countries, and need to attract grants or donations from individuals and corporations. Private capital has its benefits. It enhances resilience during economic shocks more than state funds and commercial revenues (Hodge and Piccolo, 2005). Furthermore, for their part, private corporations need to enhance their social role and, by sustaining non-profit organizations, may take reputational advantages. Therefore, in the last years, NPOs and businesses are converging (Weisbrod, 1998; Austin et al., 2007; Backman and Smith, 2000; Frumkin, 2005).

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For profit firms seek to reduce their portfolio risk and to maximize their returns. Likewise, NPOs seek to lessen financial risk and boost revenue streams (Kingma, 1993). However, private investors require guarantees and control to avoid the emergence of possible agency problems (Jensen and Meckling, 1976; Eisenhardt 1989a; Shapiro, 2005). Hence, to acquire investors' trust and get private donations, NPOs must formalize their processes (Lipsky and Smith, 1989) and improve accountability. Put it differently, they need for new financial tools in order to collect private capital to employee for the social services provision and to satisfy investors' expectations.

Social finance (Geobey and Weber, 2013; Moore et al., 2012; Weber, 2012) investigates how innovative and traditional financial instruments can direct funds into social projects, shifting from an economic-centered vision to a societal-centered one (Porter and Kramer, 2011). Specifically, Social Impact Investing (SII), as a branch of social finance, studies how to generate revenues besides social outcomes (Bugg-Levine and Emerson, 2011; Geobey et al., 2013). Although definitional and legislative issues still affect SII (Agrawal and Hockerts, 2019; Brandstetter and Lehner, 2015), its tools represent an emerging asset class (Agrawal and Hockerts, 2019; Höchstädter and Scheck, 2015). It includes private equity and direct lending, with returns ranging from zero to market rate. Both nonprofits and businesses alike may exploit potentialities of impact investing to get capital otherwise disregarded by traditional financial markets and institutions (Mendell and Barbosa, 2013). Among other impact investing tools, Pay-for-success (PFS) may represent up a legitimate extension of NPO managers' financing toolbox, because they provide funds to NPOs while fostering social innovation and preserving governments' budgetary constraints (Azemati et al., 2013). In PFS contracts, service providers must meet agreed upon payment thresholds to trigger payments. These forms of public-private partnerships may offer several benefits. A peculiar form of PFS contracts for delivering public services in low-and middle-income countries are Development Impact Bonds (DIBs). DIBs can bring together multiple actors to tackle relevant societal issues (Carmody et al., 2011; Development Impact Bond Working Group, 2013). However, despite their potential application and the interest by practitioners in this financial tool, the academic literature is scarce. Specifically, has been no detailed investigation on whether DIBs may make up a viable tool for NPO managers to get private funds and for private investors to invest their money while making a difference (Bugg-Levine and Emerson, 2011). Previous studies on DIBs have not dealt with the financial features of the contracts and with the issues of agency costs (Jensen and Meckling, 1976) and goal displacement effects (Froelich, 1999). The primary aim of this study was to investigate how DIBs may encourage private investors and non-

profits to tackle riskier interventions, thus bridging institutional gaps. In addition, we set the study to investigate whether DIBs may reduce the agency costs and the goal displacement effects likely to arise in PFS contracts. This case study also seeks to illustrate the Educate Girls DIB to depict its weaknesses and strengths, thus allowing a more informed discussion about the key elements of a successful DIB.

Therefore, to enrich the debate on DIBs and to move towards a formalization of a DIB's structure, this paper adopts an inductive approach (Eisenhardt, 1989b) and presents a case study analysis (Yin, 2014) of the world's first successful DIB in education, Educate Girls (EG) Development Impact Bond. Even though the analysis of a single case makes it difficult to generalize the results, it may represent a first attempt of formalizing a DIB's structure through an in-depth analysis of a best practice. We point out that "Educate Girls DIB" has already been object of two previous studies (Joynes, 2019; Loraque, 2018), that however overlooked the financial features of the project and did not describe the DIB's accountability mechanisms. Differently, our work grounds on this case study by adopting a financial point of view and thus focusing on the DIB as tool to provide funds to NPOs operating in developing countries, by reducing possible agency problems.

The remaining part of the paper is structured subsequently. The second section presents a review of studies by practitioners and academics on DIBs. There's often a lack of clarity in academic studies and practitioners' reports on what DIBs are and on how they work. The literature review that follows will consider the most recent publications on the subject to give an accurate depiction of DIB's structure, functioning and field of application. We'll also discuss in detail the role of every single actor in a DIB contract and the main financial flows characterizing such an investment vehicle. The third section illustrates and motivates the methodological choices. Then, the case study is analyzed and discussed. Finally, concluding remarks are provided.

Development impact bonds: A review of academic studies and "grey literature"

DIBs, as other forms of outcome-based contracts (OBCs), are attracting the attention from scholars and practitioners. Recent non-academic publications offer useful insights on DIBs. Among them, noteworthy are those of the Center for Global Development, which made up a working group on DIBs (Development Impact Bond Working Group, 2013). They first suggest creating investment funds and outcome funds. They should speed up capital accumulation and capital delivery procedures. To diffuse learnings from successful implementations, experts should set up an international team of DIB experts. They should propose shared reporting standards

and evaluation guidelines for pre-intervention and post-phase intervention phases. Apart from the ones mentioned, other questions arise (Clarke et al., 2019). Experts and scholars should clarify if DIBs were the best use of money for that context. In addition, is the intervention implementation dependent upon DIBs usage? Recent publications contain cross-country comparisons of DIBs health interventions. The authors summarize DIBs key information, design and outcomes of three projects launched in five developing countries. These are the Cameroon Cataract Development Impact Loan and the Utkrisht Impact Bond (known as "Rajasthan DIB") (Clarke et al., 2019). The results show that DIB stakeholders took part in one DIB at a time. Replicate or scale proven approaches to health services provision is the favored course of action.

For what concerns academic literature on the DIBs, we found little published information. Atun et al. (2016) identified workable funding tools to tackle HIV in sub-Saharan Africa. Suitable tools may be remittances, diaspora bonds, social and development impact bonds, sovereign wealth funds, and guarantees. Welburn et al. (2016), argued that DIBs cash flow profile mirrored the efforts necessary to interrupt disease transmission. DIB capital delivered in bullet form can support first phase expenditures. Then, less costly treatments on patients will reduce long-term cash needs. The preponderance of DIBs in health is for several reasons. First, empirical data to use for evaluation are available. Second, complex health problems need the skills of multiple stakeholders (Oroxom et al., 2018; Welburn et al., 2017). Worth mentioning is the study of Anyiam et al. (2017), who attempted to outline the cash flow profile of a health DIB. Belt et al. (2017) described targets, pricing, outcome and results of one of the world's first DIB in agriculture: the Asháninka DIB. The project achieved its outcomes only in part: because of its small scale, overheads affected project efficacy. Finally, recent studies offer insights on the "Educate Girls DIB" (Joynes, 2019; Loraque, 2018). Even if useful to describe the DIB's main features, they suffer from several limitations. They overlook the financial features of the project and do not describe the DIB's accountability mechanisms. In addition, they do not discuss the context surrounding the DIB implementation.

Stemming from the grey and academic literature, we can summarize that DIBs are multilateral contracts offering to contractual parties a shared investment platform and metrics for evaluation (Development Impact Bond Working Group, 2013). DIBs aim to foster cooperative behaviors to confront relevant social challenges in emerging countries. Once players have agreed on a formal contract with the help of an intermediary, investors offer the capital to begin the service provision. Service providers are those in charge of service delivery to target beneficiaries and use private funds to drive impact. When the service provision ends, a third-party outcome evaluator judges the results of the service provision based on the agreed on quantitative outcome measures. If the technical evaluation is positive, the outcome funder repays investors of their principal plus an added financial return on investment for the risk borne.

There are two financial flows in a DIB intervention. The first is capital commitment. That's a negative financial flow for the investor and a positive one for the service provider. The second is the upfront capital commitment reimbursement is a negative financial flow for the outcome funder and a positive one for the investor. Such a financial flow includes the capital commitment plus added revenues for the risk borne. Service provision and technical reporting are non-financial flows, but service and information streams.

Let us now consider the role of every single actor in a DIB contract. Investors are development partners, development finance institutions, philanthropic organizations, private investors, or traditional donor agencies. They want to use their capital and to gain financial returns, besides making an impact (Jun et al., 2018). Service providers are public agencies, private companies, or nonprofits. Contrary to investors, their main concern is drive change and scale impact in local communities. Outcome evaluators are social consulting firms who want to make sure that the service provision has delivered its results. Outcome funders are development agencies or charitable foundations who complement or substitute government payments to investors (Atun et al., 2016).

Before repayment occurs, the outcome evaluator should confirm that service providers have achieved the agreed-on outcome metrics. Intermediaries are consulting or law firms. They make sure that the contract signed fits the needs of investors, service providers and outcome funders. Figure 1 outlines a basic DIB structure.

On market incentives, DIBs may make sure three main results (Development Impact Bond Working Group, 2013). First, DIBs attract private funds into social interventions by making them more appealing to investors. Second, they push players to carry out a client-based bottom-up approach and of feedback mechanisms, data collection procedures and performance management systems (Oroxom et al., 2018). Third, they promote service provisions that governments and local agencies overlook in regular conditions.

MATERIALS AND METHODS

The case study methodology

Several scholars have adopted the case study methodology to examine the impact of investments in developed and developing countries. Among others, Kish and Fairbairn (2017), when they explored how the moral performance of investors affects impact projects in Africa, Verrinder et al. (2018), when they investigated three African interventions by adopting the Theory of Change (ToC) framework, Bhatt and Ahmad (2017), when they researched how
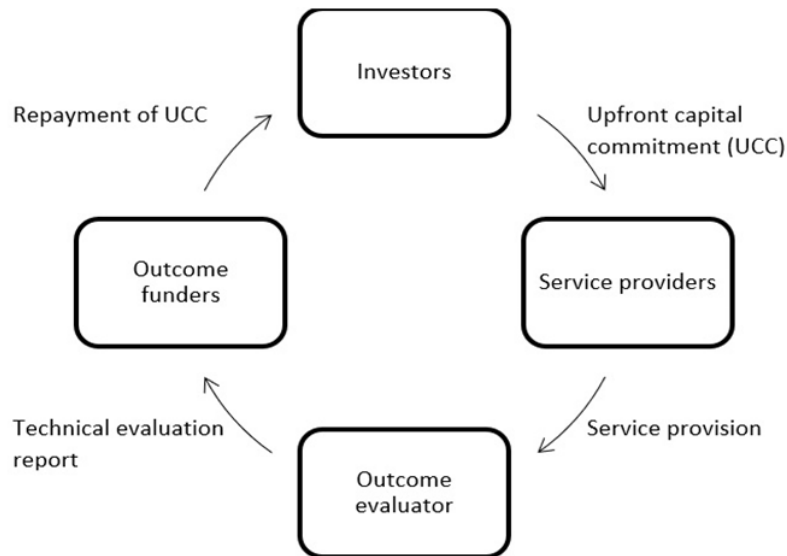
Figure 1. Basic DIB structure.
Source: Study elaboration.

India's venture capitalists adopted re-conceptualized venture financing for the Indian social context. Agrawal (2018) also used a comparative case study to describe how impact investors work in India. Tackled issues were education, finance, health, sustainable development and employment. They affected India's poorest economic strata. Räikkönen et al. (2016) proposed an evaluation framework for impact investments by drawing on two case studies. A detailed analysis of impact investors' behavior is that of Jones and Turner (2014). The authors described the 60 years investment experience of the Mennonite Economic Development Associates (MEDA) group. La Torre et al. (2019) analyzed how cross-sector collaborations in social impact bonds (SIBs) vary according to sectors and geography. Guarini et al. (2018) relied on a case study to propose a multi-criteria assessment of impact in real estate.

Qualitative methods allow scholars to characterize individuals, groups and social phenomena. To examine events within their context while keeping a real-world perspective, case studies are a practical choice (Yin, 2014). Furthermore, it is possible to build theories through case studies (Eisenhardt, 1989b). Case studies permit using different data sources to investigate the unit of analysis (Baxter and Jack, 2008). To select cases, researchers should seek the ones that enable the greatest learnings in the shortest time (Tellis, 1997). In addition, researchers should not influence the phenomenon (Yin, 2014). Such a research method has drawbacks: it is difficult to generalize results from a single case.

The three main approaches to case study research that Brown (2008) recently placed on a qualitative-quantitative continuum are the post-positivist, the pragmatic constructivist and the relativist. The "post-positivist" case study method conceptualized by Yin (2014) aims at keeping a realist perspective on the phenomenon of interest while preserving objectivity (Mills et al., 2017). The goal of post-positivists is to understand reality despite all the methodological issues that may arise during field research. Even if procedures like the triangulation of methods and documentation and the adoption of rigor data collection protocols, researchers know that their world view, because it is subjective, might also be affected by cognitive biases. For such a reason, Yin (2014) suggests, when possible, to seek rival explanations for the same

phenomenon, to test the replicability of the research design into different settings and to minimize the level of subjectivity by reducing to a minimum the interaction with research subjects. For pragmatic constructivists like Merriam and Tisdell (2015), case study research using qualitative methods should place greater attention on developing inductive reasoning and on forming a rational evaluation of a phenomenon rather than on testing pre-defined hypotheses. For relativists like Stake (1995), the data collection methods to be preferred by researchers are interviews and observations. Situation shapes activity, experience, and one's interpretation of the case, and so the production of useful knowledge is viable only when social scientists can perform their critical and interpretative role.

The first step in case study research is verifying whether the method suits the phenomenon to investigate and thus identifying a suitable case (Miles and Huberman, 2009). Accordingly, the unit of analysis used is determined by selecting a DIB among those listed by Gustafsson-Wright et al. (2017) based on its likelihood to extend current knowledge (Pettigrew, 1990). As Educate Girls DIB, launched in 2015 to 2018 by the NPO Educate Girls in India, is the first successful DIB with enough available information, we chose it (Creswell and Creswell, 2017; Stake, 1995). Figure 2 summarizes the case study selection.

Second, an exploratory, holistic single case study is opted for. That is, because the DIB had not a single set of outcomes (Yin, 2014). Despite that, the lack of information on completed DIBs (Figure 1) didn't allow us to set out a multiple-case study. Third, the need for any proposition to guide our analysis was questioned. This is a common issue for exploratory case studies, since scientific literature is often lacking (Baxter and Jack, 2008). Fourth, we collected data to conduct our analysis. A note of caution is due here since we could not use multiple sources of data (Patton, 1990; Yin, 2014). Disclosure of detailed DIBs information is at stake, since it is up to the player's discretion. Despite such limitations, our analysis examined reports and publications from different origins. The core of our case is the technical report of the DIB's independent outcome evaluator (Kitzmüller et al., 2018). We retrieved only those documents containing financial and managerial
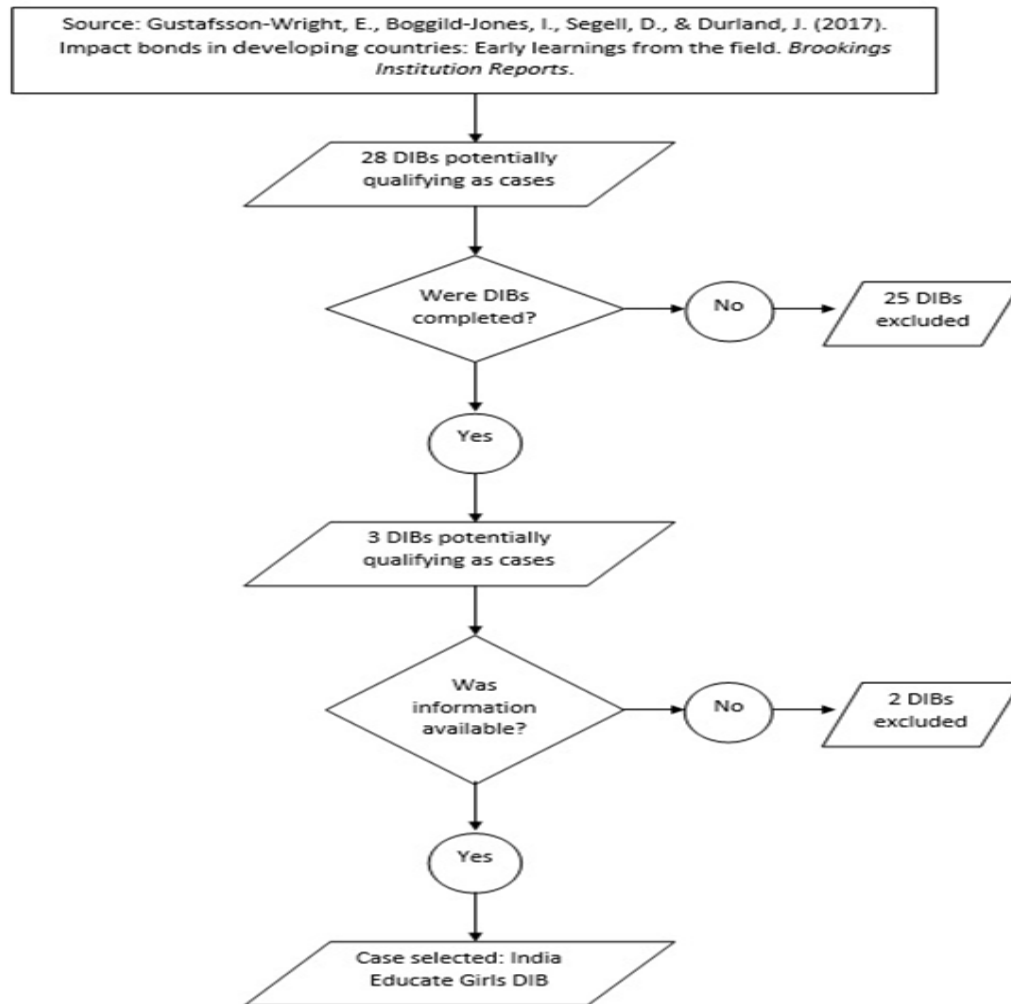
Figure 2. Sampling procedure.
Source: Study elaboration.

information for the timeframe 2015 to 2018. Based on such a choice criterion, we excluded seven documents. Figure 3 summarizes the documentation collection procedure.

Last, we organized the collected information into three categories: DIB structure, DIB key information, and DIB outcomes. DIB structure comprised four actors: investor, service provider, outcome evaluator and outcome funder. For each of them, we displayed the proper name and the typology (Gustafsson-Wright et al., 2017). DIB key information comprised five sub-categories: location, focus, upfront capital commitment, outcome funding and internal rate of return (IRR). DIB outcomes comprised five sub-categories: outcome, evaluation method, impact indicator, target, and allocated outcome payment.

In the next sub-paragraphs, we provide more details about the Educate Girls case study and illustrate the Educate Girls DIB to depict its weakness and straightness and, thus, discuss about the key elements for a successful DIB.

The educate girls case study

That of education is one of India's most pressing societal issues.

Hidden costs associated with the girls' school leaving are high. Chaaban and Cunningham (2011) estimated that the lifetime cost of early school leaving in India is $ 1,315 million for primary school and $ 10,610 million for secondary school. Those amounts account for 0.04% and for 0.34% of India GDP. The lack of formal and vocational education causes unemployment, the root of social exclusion (Agrawal, 2018).

Developing countries experience institutional gaps and lack of services. This is because of politics, corruption and poverty (Heston and Kumar, 2008; Mair et al., 2012). Government retrenchment created opportunities in a variety of sectors (Jalali, 2008). Despite that, the lack of funding still prevents social innovation to scale (Sonne, 2012).

Indian schools did not deliver quality education to marginalized populations. In addition, it did not meet the demands for a skilled workforce of Indian small and medium enterprises (SMEs). Problems as a lack of private education programs and a shortage of skilled teachers contribute to worsening the scenario.

To overcome such challenges, the Indian government needed experienced social enterprises and enough funds to sustain their projects. Worldwide impact investors sought opportunities to invest their capital and so directed their resources towards educational
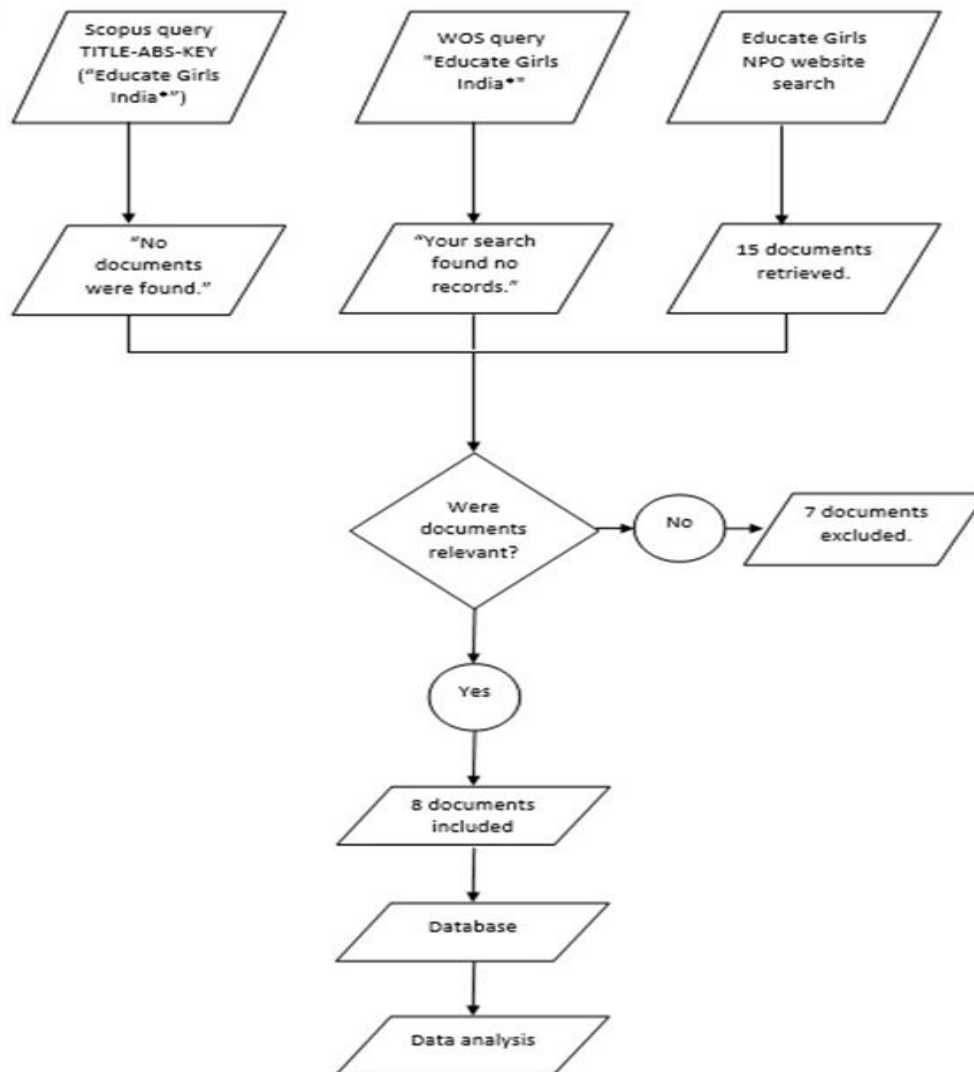
Figure 3. Documentation collection process.
Source: Study elaboration.

projects in India. Investments ranged between 10 and 40% of the equity capital of social firms in the early or growth stage. The smallest sum invested ranged between 10,000 and $2 million (Agrawal, 2018). Likewise, the NPO Educate Girls attracted the UBS Optimus Foundation into a DIB contract that tackled girls' education in rural areas of India.

The nonprofit organization Educate Girls, confronts gender inequality in India. The NPO helps girls living in rural and marginalized areas of India to resume their studies (Educate Girls, 2018). To fill the institutional gap in education, the nonprofit fostered innovation and leveraged existing public investments.

Its business model is a team-based one. "Team Balika" comprised local volunteers who identified out-of-school girls and motivated them to go back to school (UN Global Compact Network India (UN GCNI, 2018) and Deloitte Touche Tohmatsu Limited, 2018). The profile of a "Team Balika" candidate is that of a village volunteer who passed 12th grade at school. In addition, he or she must have completed a program on enrollment strategies and Creative Learning and Teaching (CLT) techniques. Girls account for 40% of Educate Girls volunteers (Bhabha and Gopi, 2016). School

management committees help the NPO to maximize the girl's school retention.

From 2015 to 2018, the DIB benefitted 7,300 children. Educate Girls treated 166 schools in 140 villages in the Bhilwara district, Rajasthan (Educate Girls, 2018).

Educate girls development impact bond

Let us now consider more in details the DIB contract. The project involved three main actors: Educate Girls (service provider), the Children's Investment Fund Foundation (outcome funder), and the UBS Optimus Foundation (investor). Apart from that, the DIB included the state government of Rajasthan, IDInsight (outcome evaluator) and Instiglio (project manager).

Educate Girls acted as the service provider and implemented the service provision for target beneficiaries. The Children's Investment Fund Foundation, the outcome funder, paid back the investor. The UBS Optimus Foundation, the investor, provided the early capital for the project launch.
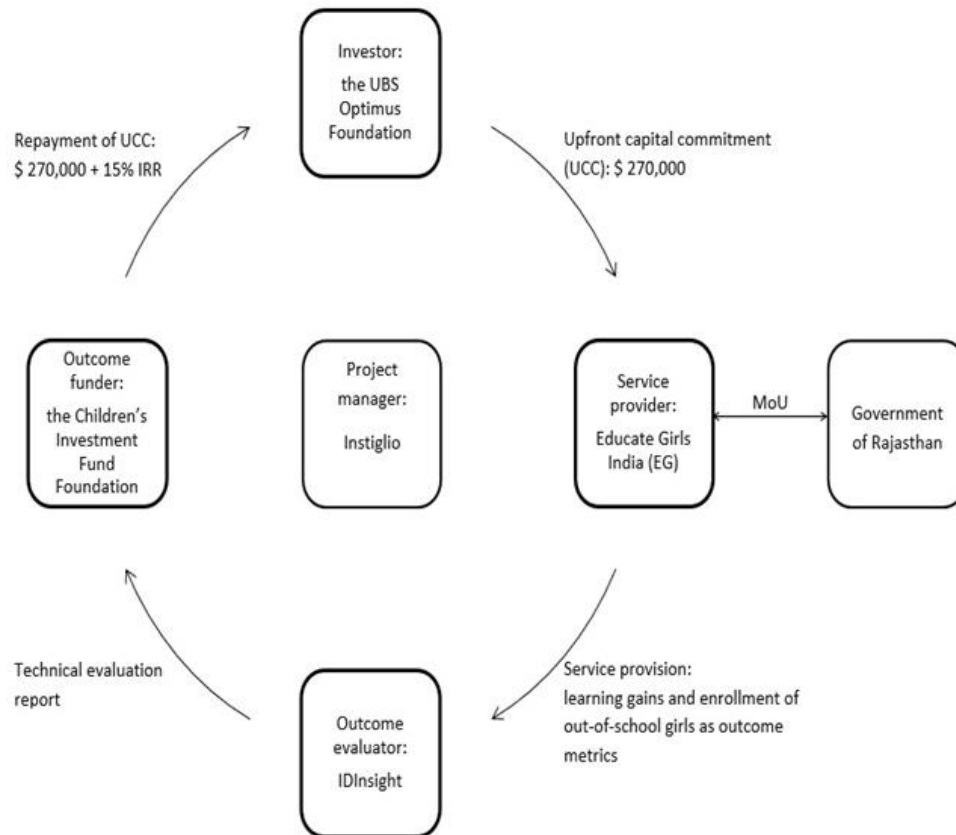
Figure 4. India Educate Girls DIB scheme.
Source: our elaboration.

Educate Girls and the state government of Rajasthan signed a Memorandum of Understanding (MoU). They formed a task force aimed at reducing local opposition and creating a shared vision (Jasmine Social Investments, 2014).

Involved in the DIB contract, were two social consulting firms: IDInsight and Instiglio. IDInsight, the outcome evaluator, analyzed the results of the service provision based on the agreed-on outcome metrics. Instiglio, the intermediary, mediated partner's requests to close the contract.

After some negotiations, it was decided that the outcome metrics would trigger payments from the outcome funder to the investor took an entire year. Then, the "Educate Girls DIB" was ready to start. It costed $1 million, including legal fees, evaluation and marketing (Assomull et al., 2015). It lasted from 2015 to 2018, and the early capital commitment amounted to $270,000. The UBS Optimus Foundation disbursed 50% of the principal in 2015 and the remaining 50% in 2016 (Kitzmüller et al., 2018). The Children's Investment Fund Foundation released a single outcome payment to the UBS Optimus Foundation in 2018 (Gustafsson-Wright et al., 2017). Contractual parties selected two outcome metrics to test the service provision. Learning gains accounted for 80% of the final DIB payments. Enrollment of out-of-school girls accounted for 20% of the final DIB payments. IDInsight measured learning gains through randomized controlled trials and enrollment of out-of-school girls through a pre-post comparison.

The DIB does not contemplate payment thresholds. There's no level of outcome to achieve to trigger payments. The DIB links outcome payments to each added unit of outcome achieved (Gustafsson-Wright et al., 2017). Reimbursement of the principal plus the Internal Rate of Return (IRR) of 15% in 2018 in bullet form occurred in 2018. The investment was 100% unsecured. At the end of the project, the UBS Optimus Foundation got back its principal ($ 270,000) plus an added 15% IRR. Educate Girls DIB surpassed both its target outcomes: 160% for learning gains target and 116% for enrollment. Figure 4 also summarizes the financial and non-financial flows of the project.

Significant information is retrievable from third-parties reports. Among them, are those of IG Advisors and of the World Innovation Summit for Education (WISE) and Parthenon-EY. Other sources are the practitioners' publications of the Dasra foundation and of the consulting firm IDInsight. We included Dasra's report despite its publishing date (2014) because it contained useful information for our analysis.

For IG Advisors, the Educate Girls DIB provided impact investing experts with useful insights (IG Advisors, 2017). Above all, partnerships need inputs from both donors and beneficiaries to perform well. Second, different donors give different capital. Strategy-oriented partners will fund strategic interventions, project-oriented partners will offer project-focused funds. Besides that, donors should trust beneficiaries by providing them with long-term, unrestricted funding. By doing so, experienced service providers may have the flexibility to change when circumstances change. Last, donors and beneficiaries can empower each other by filling the respective competencies gaps.

For WISE and Parthenon-EY, one of the success factors of Educate Girls DIB was the role played by the intermediary, in our

case Instiglio. The necessity to ensure accountability made up another success factor. Service providers needed to design data management procedures and to stand against controls of third-parties (Assomull et al., 2015).

For Dasra, the effectiveness of Educate Girls relied on its business model. First, the model is specific to rural schools and is cost effective. Second, the NPO built its business model on measurement. Program results are easy to check, even for third-parties. Last, is scalable and expandable even with similar cost levels. Dasra proposed a framework to map organizational changes of Educate Girls that comprised four phases. "Blueprint" is the first phase. In "Blueprint" the NPO outlined its vision, mission and business model and run a pilot. "Validate" is the second phase. In "Validate" Educate Girls tested its model and refined it or re-worked it. "Prepare" is the third phase. In "Prepare" the NPO developed its organizational capacities and enhanced systems and processes. "Scale" is the last phase. In "Scale" Educate Girls' refined model was ready to reach larger target populations.

The NPO signed contracted the DIB in 2015, during the "Scale" phase (Dasra, 2014). That's interesting for two reasons. DIB implementation needs service providers with proven track records. Their business models should be reliable and validated. DIBs look suitable to help NPOs to scale. They may not adapt to startups and innovative services delivery. Table 1 shows the changes in the cost structure of Educate Girls over the four phases. It maps how organizational structure changes.

The data refer to the timeframe 2005 to 2017. They provide insights on how the NPO reduced its costs while ensuring impact. Annual costs per beneficiary and per school dropped from 2005 to 2007 and from 2008 to 2011. This may be because of changes in data collection methods and in monitored indicators. The shift from activity-based indicators to output-based indicators is significant. In 2012 to 2013, both categories of costs increased. That may be for introducing outcome-based indicators. Outcomes differ from outputs. Outcomes are social or environmental mid-term results, while outputs are short-term results derived from implemented activities. To focus on outcomes, NPOs should think long term. For example, Educate Girls wanted to increase learning gains. Teaching hours (outputs) should then improve students' results in Hindi and math (outcome). Output-based organizations will seek ways to reduce costs. Outcome-based organizations will seek to achieve impact. NPOs will accept to face increased short-term costs if that helps to increase outcomes. In 2014 to 2017, the output-based model is ready to scale, and costs decrease because of capacity-building.

The report of IDInsight explores the three-year evaluation of the DIB (Kitzmüller et al., 2018). Random choice of treatment and control schools took place in March 2015. Chosen sample included 12,000 students in grades 3 to 5. Educate Girls treated 332 schools and 282 villages. 141 villages were the beneficiaries of Educate Girls interventions, while the remaining 141 villages made up the control group. In 2015, experts performed a census of out-of-school girls and the baseline comparison. Yearly program assessments took place in February 2016, 2017 and 2018. As explained in the sections below, no payments occurred at the end of yearly evaluations. On August 2016 and 2017, IDInsight valuated additions to out-of-school girls' census. In July 2018, the DIB intervention ended. Since it was successful, the UBS Optimus Foundation got back its principal plus a 15% IRR.

Learning gains accounted for 80% of the final DIB payments. Because of the way IDInsight measured learning gains, the outcome evaluator didn't leave room for "cherry-picking". "Cherry-picking" describes the behavior of contractors that aim at selecting easier targets. Such a negative incentive derives from contractual pitfalls (Ramsden, 2016). The testing tool used to assess students was the Annual Status of Education Report (ASER), which helped teachers to check progress in literacy and math skills. The outcome metric of learning gains considered two components: the sum of

learning gains in the treatment and control villages. Such a weighted sum encouraged the NPO to enroll new students in schools. If they performed below expectation, it affected results in treatment villages.

Students in treatment schools performed well compared to those in control schools: they gained +1.08 ASER. Total learning gains deserve attention: in year three, students in treatment schools scored +6.045 ASER. Students involved in Educate Girls programs for three years scored best. The third-year intervention produced the greatest effects. Results in grades two and three at baseline grew 79% more in the final year when compared to similar students in control schools. Students who reaped the most benefits scored low at baseline. Improvement in Mathematics and English were three times greater than those in Hindi. Treatment districts showed different patterns, with better results in Bijoliya than in Mandalgarh and Jahajphur.

Enrollment of out-of-school girls accounted for 20% of DIB outcome payments. Educate Girls census of out-of-school girls before the DIB launch. IDInsight verified such a census and its additions every year. Surveyors visited schools in which girls enrolled. They asked school staff to verify the girl's general information and to sign a form. At the end of the intervention, the NPO enrolled 768 out-of-school girls: 92% of the total eligible girls. Educate Girls exceeded the enrollment target of 16% (Kitzmüller et al., 2018).

DISCUSSION

Scholars seem to have overlooked Development Impact Bonds (DIBs). DIBs are multi-stakeholder outcome-based contracts that can bring together public and private actors and allow them to cooperate. DIBs are a platform for impact investing through which tackling relevant social issues. Their usage is specific to developing countries (Carmody et al., 2011; Development Impact Bond Working Group, 2013).

To the best of our knowledge, there are no case studies that describe successful DIBs. This study set out to examine the "Educate Girls DIB", the world's first DIB in education. The NPO Educate Girls launched the DIB in 2015. The DIB reached both its target outcomes in 2018.

Table 2 summarizes the analyzed DIB's main contractual and financial characteristics. It displays four main categories. DIB structure is the first one and shows the actors involved in the intervention. DIB key information is the second and gives relevant, yet general, notions. DIB outcomes is the third and analyzes in-depth the DIB outcomes and metrics. DIB's financial features are the fourth.

Table 2 shows that, apart from the local service provider, all the other actors are foreign. This may suggest the willingness of private and public actors to leverage their investments by exploiting service providers' local knowledge and abilities in tackling specific societal issues affecting local communities (Gazley and Brudney, 2007; Pfeffer and Salancik, 2003). Indeed, the NPO Educate Girls, independently by government, filled an institutional void in the education sector, which may be determined by country-specific factors such as politics, corruption and poverty (Heston and Kumar, 2008; Mair et al., 2012), and launched the

DIB. Such evidence is noteworthy since it demonstrates how NPOs can foster innovation and substitute governments in social service provision (Joy and Shields, 2013). Despite that, the role of local institutions remains prominent, as indicated by the signing of the Memorandum of Understanding between Educate Girls and the State Government of Rajasthan. Involving a local NPO might be beneficial for investors because it may ensure a cost-effective and outcome-oriented service delivery capable of achieving the agreed-upon outcome metrics or payment thresholds which will unlock repayments. Outcome funders, which subordinate repayments to the attainment of non-financial outcomes, are also likely to profit from the presence of a local NPO: experienced service providers aware of context-specific characteristics will be able of generate lasting social change.

It can be seen from Table 2 that the DIB has a high risk-return profile, even though does not contemplate payment thresholds to trigger payments. The high total cost of negotiation, which includes legal fees, evaluation and marketing (Assomull et al., 2015) may derive from the willingness of players to come up with a result-based contract in which the contract duration is significant and the reimbursement is in bullet form. We suggest that this may be a direct consequence of the principal-agent relationship arising among the investors and service providers. Investors require easily attainable outcome metrics for service providers to reduce the risk they bear and to get back their principal plus the additional financial return. Similarly, service providers are interested in contracting manageable outcome metrics to ensure the successful completion of the service provision and the achievement of relevant social outcomes. However, since investors adopt a financial-based logic while service providers adopt an outcome-based logic, agency problems, we suggest, are likely to arise. This leads to increasing negotiation and monitoring costs.

In the light of literature review and case study analysis, we can summarize that DIBs in their simplest form include four main actors, two financial flows and two non-financial flows. Investors are those development partners, development finance institutions, philanthropic organizations, private investors, or traditional donor agencies who supply the upfront capital commitment to service providers to start the service provision. This makes up the first financial flow of a DIB. Service providers are those public agencies, private companies, or non-profits in charge of services provision directed in favour of target beneficiaries. This makes up the first non-financial flow of a DIB. Outcome evaluators are those social consulting firms who check if service providers attained the agreed-upon contractual outcome metrics. After that, outcome evaluators submit to outcome funders a technical report which summarizes the results of the DIB. This makes up the second non-financial flow of a DIB. Outcome funders are those development agencies

or charitable foundations that complement or substitute government payments to investors (Atun et al., 2016). Their role is to unlock the second financial flow of a DIB, the repayment of principal plus an additional return to investors, if the results of the service provision are positive. Apart from those four main actors, the case study analysis suggests also a prominent role by intermediaries. They are consulting or law firms who make sure that the signed contract fits the needs of investors, service providers and outcome funders.

Since investors are financially oriented actors while service providers are non-financially oriented actors, it is likely that agency problems and control costs may arise. Their interests, in fact, are contrasting: private investors seek the reimbursement of principal plus an additional financial return, service providers aim at creating lasting social change in local communities by leveraging the received funds. Investors care for the effective use of capital for the sake of financial gains and everything which may divert from such an aim is likely to create frictions with NPOs. To overcome such obstacles towards the successful completion of the DIB contract, of importance are outcome evaluators and outcome funders. Outcome evaluations are third-party players with no financial interests at stake who ensure an impartial, quantitative evaluation of the service provision of NPOs. By doing so, they make sure that NPOs have achieved the outcome metrics specified in the contract, thus suggesting an effective use of the investor's private resources. Outcome funders, on the other hand, have their financial interest at stake in the DIB, since they are the players in charge of repayments to investors. At the same time, outcome funders are also private or public outcome-oriented players who trigger repayments only if interventions are successful from a social perspective. This mitigates an otherwise excessive focus on capital usage's efficiency by properly considering a socially oriented perspective.

Taken together, these findings seem to support the notion that DIBs may be an incentive for private investors and non-profits to bridge the institutional gaps in developing countries by undertaking interventions otherwise too risky for both parties. The legal structure of DIBs may challenge the notion that the inflow of private capital in NPOs causes goal displacement effects. Our analysis also provides some tentative initial evidence that the agency costs in PFS contracts may be reduced if the legal setup of the deal and its composition of the contrasting interests of the actors resemble that of DIBs. Practitioners may refer to this work when dealing with DIBs design in developing countries.

Conclusion

Through a careful literature review and an in-depth case study analysis, our work offers some insights for DIBs

implementation based on current best practices. Summing up, it suggests that DIBs might be a viable option to tackle relevant societal issues. Furthermore, our findings may contribute to the academic debate in several ways.

First, it highlights DIBs may encourage private investors and non-profits to bridge institutional gaps (Starke, 2006; Joy and Shields, 2013). Private investors may find in DIBs a complementary investment vehicle for their funds. Even though risky, DIBs allow partners to build upon NPOs' experience (Gazley and Brudney, 2007). DIBs can attract capital otherwise disregarded by traditional intermediaries (Mendell and Barbosa, 2013).

Second, it suggests DIBs may provide funds to NPOs willing to tackle riskier interventions. DIBs may be a tool for reducing the cost of capital of non-profits. By diversifying revenue sources, NPOs can try minimizing risks (Jegers, 1997; Kingma, 1993). We did not observe negative effects because of the private investor's involvement in the DIB. An explanation for this might be that the DIB accounted for a small fraction of Educate Girls' total funding. Since stakes were low, many of the problems identified by the literature did not arise (Jang and Feiock, 2007).

Third, DIBs seem to mitigate agency problems that arise in the initial phase of a deal (Davis et al., 1997). When agents lack trust in contractors, relationships become control-oriented and hierarchical. This happens because capital providers need control mechanisms and quantitative values to refer to interventions. Reduced agency costs characterize later partnership stages, and the same happens in DIBs. When designing DIBs, players seek to increase their control. Investors want achievable outcome measures to achieve repayment faster. Service providers want achievable outcome measures to prove that they're worth additional funds. Outcome funders prefer a fair evaluation process, since they must pay back investors. All those contrasting needs determine high negotiation costs, which drop once they sign the contract. And when criteria are clear, the relationship-building process takes place. Thanks to intermediaries and because of contract design, DIBs can create a shared platform with clear metrics upon which to build lasting partnerships. Educate Girls implemented performance management systems which increased its accountability towards stakeholders. In addition, the relationship-building capacities needed for operating the DIB will be of use for future projects.

Fourth, DIBs seem to mitigate goal displacement effects that occur when funders divert non-profits from their targets (Froelich, 1999). When investors lack trust in payees, the need for monitoring arises. Required controls, those of federal agencies, may become pervasive. Guarantee accountability requires time and resources, and so NPOs may divert from their mission for the sake of funds. They can adopt equity-based distribution policies, thus resembling governmental

agency behaviour (Lipsky and Smith, 1989). Goal misplacement effects in DIBs seem less significant. This may be because of the different nature of the funder, while governments need bureaucratic conformity, private investors only care for revenues.

Last, DIBs seem best suited to experienced NPOs and service providers. Since societal issues require cost-effective interventions, validated business models ready to scale may be the best option for DIBs players. It's not a case that Educate Girls contracted the DIB in its "Scale" phase (Dasra, 2014). Back then, the NPO replaced its data collection system and tested its performance based on activity, output, and outcome-based indicators. Improving the cost structure was one main concern of Educate Girls in years 2014-2017. Displayed in Table 1 is the general pattern of cost declining. Table 1 reveals a sharp increase in the monitoring and evaluation budget. Annual cost per beneficiary peaked in 2012-2013 when the NPO introduced outcome-based indicators. Annual costs per beneficiaries and per school are likely to continue decreasing: targeted values are $ 2,06 per beneficiary and $270 per school.

Some limitations affect the present study. We didn't perform a triangulation of empirical evidence by recurring to different data collection methods (Yin, 2014). This was because of time constraints and difficulties in identifying and reaching the key actors for potential interviews and surveys. We recognize that selection bias could affect our analysis. We also opted for a theoretical sampling because of the lack of alternatives (Gustafsson-Wright et al., 2017).

The present study contributes to the expanding field of impact investing (Agrawal and Hockerts, 2019) by providing a detailed analysis of a DIB best practice. To the best of our knowledge, this is the first comprehensive investigation of a successful DIB. The data reported here appear to support the assumption that DIBs are a viable tool for both investors and NPOs and that government should then place greater attention on such a new form of financing of publicly relevant projects. Practitioners may refer to this work when dealing with DIBs design in developing countries. In fact, insights gained from this study may be of help to all the parties involved in a DIB contract. Investors might contrast the legal setup of a potential DIB with the one described previously in the present paper to see if opportunistic behaviours from service providers or from other contractual parties are likely to arise. Service providers might refer to the present investigation to learn how Educate Girls adapted its organizational structure to meet the needs of capital providers. Outcome evaluators may check how the evaluation process took place and how IDinsight handled "cherry-picking". Lastly, outcome funders may check how the payment structure of a DIB might increase the likelihood of easy disbursement and which remedies devise to avoid it. We also aim to suggest future research

Table 1. Changes occurred in the cost structure of Educate Girls.

Phase	Blueprint	Validate	Prepare	Scale	Future goals
Year	2005-2007	2008-2011	2012-2013	2014-2017	2017 to date
Team size	40	103	195	570	1,400
Number of children reached	70,000	348,000	500,000	950,000	4,100,000
Annual operational budget	$ 200,000	$ 917,000	$ 1.83 million	$ 3.2 million	$ 8.33 million
Annual cost per beneficiary	$ 2.85	$ 2.63	$ 3.66	$ 3.30	$ 2.06
Annual cost per school	$ 400	$ 295	$ 366	$ 370	$ 270
Monitoring and evaluation team size	0	9	20	72	-
Monitoring and evaluation budget (% of total budget)	2-3%	3-5%	3-5%	5%	-
Monitoring and evaluation budget (USD)	$ 5,000	$ 37,000	$ 73,000	$ 160,000	$ 300,000
Model of data collection	Paper-based	Microsoft Excel-based	Microsoft Excel-based	Mobile phone-based	-
Types of indicators	Activity-based indicators	Activity and output-based indicators	Activity, output and outcome-based indicators	Activity, output and outcome-based indicators	-

Source: (Dasra, 2014).

Table 2. Educate Girls DIB's main contractual and financial characteristics.

			DIB structure			
Category		**Investor**	**Service provider**	**Outcome evaluator**	**Outcome funder**	**Intermediary**
Name		The UBS Optimus Foundation	Educate Girls India	IDInsight	The Children's Investment Fund Foundation	Instiglio
Type		Foundation	Nonprofit	Social consulting firm	Foundation	Social consulting firm
Local actor		0	1	0	0	0
Foreign actor		1	0	1	1	1
DIB key information						
Outcome measure	Weight	Measurement	Payment thresholds**	Target number of beneficiaries	Social issue tackled	Target reached
Learning gains	80% of total outcome payments	ASER test score	None	15,000 children (9,000 of them girls)	Education	Y – 160%
Enrollment of out-of-school girls	20% of total outcome payments	% of total out-of-school girls	None			Y – 116%
DIB financial features						
Total cost	Contract duration	Upfront capital commitment (USD)	% of DIB secured	Reimbursement type	Minimum IRR (%)	Maximum IRR (%)
$ 1,000,000	3 years	$ 270,000	0%	Bullet	10%	15%

Sources: Educate Girls (2018); Gustafsson-Wright et al. (2017); Kitzmüller et al. (2018).

avenues for scholars. First, our paper may make up the basis for future cross-case or cross-country comparisons. Second, the reduction or agency costs and of goal displacement effects require further examinations. Third, as done for social impact bonds (Del Giudice and Migliavacca, 2019), researchers should clarify the role of institutional investors in DIBs.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interest.

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The effect of county government expenditure on gross county product in Kenya: A panel data analysis

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From previous studies, the effects of expenditure on economic growth appear to provide mixed results. Despite this uncertainty, theory suggests that expenditure induce growth. In Kenya, economic growth has been fluctuating despite the devolved expenditure increasing over time. It is against this background that this study was carried out to investigate empirically the short-run and long-run effect of components of county spending on growth in Kenya using panel data set over the period 2013 to 2017. Employing Harris-Tzavalis test, the study tested for the panel unit root and found that all variables were non-stationary at their level except gross county product (GCP). To check if the variables have long-run relationship, this study applied F bounds test. The result for this test revealed that there exists a long-run relationship among the GCP growth and regressors in the model. Once co-integrating was confirmed using F-bound, the long-run and ECM estimates of the ARDL model were obtained. The ARDL results revealed that spending on recurrent expenditure exerts a positive and significant effect on economic growth both in short-run and long-run hence confirming Keynesian theory in Kenya. However, capital expenditure was insignificant during the study period. From a recommendation standpoint, this study submits that the policymakers need to put in place policies that will improve budget allocation and execution so as to improve expenditure increase to capital infrastructure. This is necessary since counties lack infrastructures that help promote private capital accumulation and consequently county GCP.

Keywords: Gross county product (GCP), counties, expenditure, panel, autoregressive distributed lag model (ARDL), short-run, long-run.

INTRODUCTION

The universal drive towards devolution has been increasingly justified on the basis that greater transfers of resources to sub national governments are expected to deliver greater efficiency in the provision of public commodities and accelerate development (Martinez-Vasquez and McNab, 2005; IMF, 2016). Further, many studies on the linkage between spending and economic expansion have been conducted at the national and international level, for instance, Kakar (2011) and Kimaro et al. (2017). The causes of much of the disparity in

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county growth over time are not well understood. In particular, the effect of county expenditure on economic expansion has not been investigated exhaustively. Several studies (Mutie, 2014; Nanjala, 2015; Maingi, 2017) have attempted to investigate the channels through which different fiscal decentralization can affect growth in Kenya. From these studies, the effects of expenditure on growth appear to be inconclusive and other provides mixed pictures.

Devolution is thus projected to make county spending more efficient (ICPAK, 2014), create opportunities for county regimes to mobilize resources around development ambitions (Muriu, 2013) and encourage better coordination between various stakeholders. In addition, devolution is expected to provide each devolved unit the autonomy to pursue a development strategy tailored to its own economic advantage (KIPPRA, 2016), thus contributing to greater county economic growth (IMF, 2016).

Fiscal decentralization may influence county economic expansion are as follows. First, county investment in infrastructure is believed to have a direct effect on economic expansion through increasing the county capital stock. The second channel is the externality effect of spending that alters growth indirectly by raising the marginal productivity of private factors of production through spending on education and health sectors, which add to human capital accumulation. The third channel is intersectoral productivity differentials which makes some sectors to have more potential than others (Age'nor, 2007; Maingi, 2017). The final channel is spending on commodities that increase the aggregate demand (Age'nor, 2007; Kakar, 2011).

Table 1 shows the trend of growth and government size growth in Kenya from 2012 to 2017. From the table, there is evidence that the size of government has been rising, both county and national, in Kenya. However, the growth of government size is that of double digit while GCP is growing at a single digit. Further, the increasing wage bill accounts for the rapid growth in government size over the years (OCOB, 2017). In the review period, the rate of expansion of GCP was cyclical, depicting no clear pattern and responsiveness to changes in both national and county sizes (KIPPRA, 2016; KNBS, 2019). Despite the widespread government strategies to foster economic growth, increase in spending has tended to expand faster than that of county GCP expansion. The trends in this Table 1 reveal a widening gap between government size and GCP growth and therefore a concern that this study is interested in.

Therefore the paper attempts:

1. To determine the long-run and short-run effect of county government recurrent expenditure on county economic growth in Kenya.
2. To investigate the long-run and short-run effect of county government capital expenditure on county economic growth in Kenya.

LITERATURE REVIEW

Solow (1956) model concludes that the addition of physical capital cannot account for either the vast expansion over period in output per worker. The theory forecasted technological progress typically assumed to expand at a constant 'steady state'- is what determines permanent output expansion in long-run (Romer, 2001).

As pointed, in the neoclassical growth model, if the incentive to save /invest in new capital is influenced by fiscal policy, this alters the equilibrium capital output ratio and therefore the level of output path, but not its slope. The new feature of the public policy endogenous expansion model of Barro and Sala-i (2003) and Madhumita et al. (2019) is that fiscal policy instruments can determine both the level of output path and the steady state growth rate of county.

The Keynesian paradigm treats county spending as an exogenous policy determined variable and economic expansion as endogenous and explained by the expenditure. A key factor in the Keynesian model is that the expansion of aggregate effective demand should accelerate to economic accumulation and pull the county economy out of the recession (Romer, 2001). Keynesian economics is an economic theory of total economy spending and its effects on output and inflation. Keynesian economics is considered a "demand-side" theory that focuses on changes in the economy over the short-run (Romer, 2001; Ntibagirirwa, 2014).

Linking theories: Government expenditure and economic expansion

Wagner's law of "increasing public and state activities" claims that the role of county expenditure is an endogenous variable in the process of economic expansion. Wagner's hypothesis asserts that economic expansion leads to increase in income, which results in increased demand for public goods and services. The demand for such public utilities is due to industrialisation and urbanisation, and it increases perpetually; to continue to provide these services, the counties needs to make huge budget allocation. The Keynesian framework holds that county expenditure is an exogenous factor that accelerates county growth, or expenditure can be used as a policy measure to generate employment, and boost economic activity at county level (Nanjala, 2015; Maingi, 2017; Madhumita et al., 2019). From the combination of the above two economic views, this study develops a circular flow as presented in Figure 1.
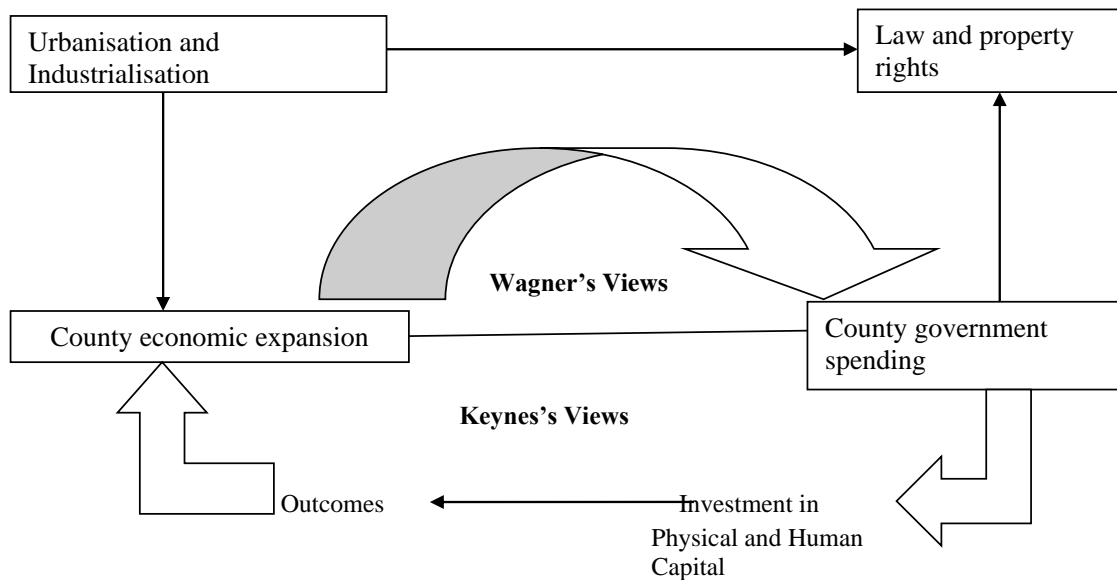
Empirical research gap

A criticism of previous empirical studies is that if data on

Table 1. Government size in Kenya.

Year	2012	2013	2014	2015	2016	2017
Real GCP growth rate - (%)	4.6	5.9	5.4	5.7	5.9	4.9
National expenditure - (% GCP)	23.7	23.7	25.9	26.6	25.3	24.6
County expenditure - (% GCP)	1.0	4.3	5.4	5.4	5.3	5.3

Source: KIPPRA (2016), GoK (2018) and KNBS (2019).

Figure 1. The combination of Wagner's Law and Keynesian views on circular flows. Source: Keynes's (1936) views; Wagner's (1958) views.

the variables is not stationary it may be that, due to the common trends in variables, there can be spurious correlation which imposes upward bias of the estimated coefficients. One way to correct the problem is to run regressions model in the form of first differences. However, such a remedy has its own limitations because it generates only short-run effects, while the relationship is predicted to be long-run. Such analysis can give wrong conclusions. This study used the Error Correction Model (ECM), which distinguishes between short-run and long-run estimates of county fiscal variables on economic expansion and determines the speed of adjustment to the long-run. In addition, a number of the studies, Oguso (2017) and Gebreegziabher (2018) made use of time-series and OLS approach which are prone to many econometrics limitations like multicollinialiy. In addition, panel diagnostic tests, stationarity test, and co integration which are very crucial in modeling were glaringly absent. This could put to question reliability of the results so presented.

METHODOLOGY

This study employed historical research design so as to capture the trend of county GCP accumulation and county spending. Historical research design leads to understanding of the past and its relevance to the present and the future. This was carried out in the period 2013 to 2017 using annual series secondary data for 47 counties and panel ARDL technique, resulting in 235 county-year observations. This study was carried out in Kenya. This is because in the study period, there has been a significant transfer of funds to 47 county governments by the national government in order to address disparities in country economic growth. The secondary data was from previous publications which could only be sourced from secondary sources. The study utilized annual panel data from Statistical abstracts, Economic surveys, Gross County Product report and County Budget Implementation Review Reports -Kenya.

Following studies of M'amanja and Morrissey (2005) and Facchini and Melki (2013), logs (ln) of the variables were taken for the estimation of the panel model so as to allow for regression coefficients to be treated as elasticities. An advantage of expressing the variables in natural logarithmic form is to reduce the problem of heteroskedasticity and also achieve stationarity in the lower order of integration (M'amanja and Morrissey, 2005; Greene, 2012). Thus, panel regression to be estimated was:

$$y = f(rg, cg, ng, ar, hc, cr, tc, ec), lny_{i,t-1} = \beta_0 + \beta_1 lnrg_{i,t-1} + \beta_2 lncg_{i,t-1} + \beta_3 lnng_{i,t-1} + \beta_4 lnar_{i,t-1} + \beta_5 lnhc_{i,t-1} + \beta_6 lncr_{i,t-1} + \beta_7 lntc_{i,t-1} + \beta_8 lnec_{i,t-1} + \varepsilon_{i,t}$$

(1)

Where, $ln\ y$ -County real Gross County Product (GCP) per Capita,

$ln\ cg$ - *County capital expenditure,* $ln\ rg$- *County recurrent expenditure,* $ln\ ar$ - *Absorption rate of County government expenditure,* $ln\ hc$ - *County Human capital,* $ln\ cr$ - *County Corruption rate,* $ln\ tc$ - *County Total Crime rate,* $ln\ ec$ -*Electricity Consumption.*

GCP is the total value of output - goods and services - produced in the county economy. The accurate measurement of growth is real GCP. It removes the effect of inflation. The GCP growth variables data were obtained from World Bank report and Gross County Product (GCP) report. County expenditure on capital goods was supposed to add a country's physical capital which, in turn, could complement private sector productivity and increase economic growth in the process. The sign of the variable was therefore expected to be positive. But recurrent expenditure was expected to give a negative result, since most recurrent expenditure is for consumption purposes. Consumption expenditure is ineffective on the grounds of well - known crowding - out phenomenon that is, as public goods are substituted for private goods, thus causing lower private spending. The fiscal variables were obtained from Statistical Abstract and annual county Budget Implementation Review Report.

Building on previous empirical researches (M'amanja and Morrissey, 2005; Facchini and Melki, 2013), a simple growth equation was formulated from Equation (1).

$$\ln Y_{i,t-1} = \beta \ln X_{i,t-1} + \gamma \ln G_{i,t-1} + \mu_i + v_t + \varepsilon_{i,t} \qquad (2)$$

Where, $\ln Y_{i,\ t-1}$ - the dependent variable - County GCp growth; $lnX_{i,t-1}$ - set of explanatory variables apart from components of county expenditure; $\ln G_{i,t-1}$ - the county expenditure variables; β and γ - are parameters to be estimated; μ_i- county fixed effects; v_t - time fixed effects; $\varepsilon_{i,t}$ – the error term and the subscripts i and t represent county and time period respectively.

Panel unit root test

The panel unit root tests allow investigating mean-reversion (stationarity) in the group (panel) of series. Most time series data are mostly characterized by stochastic trend which can be removed by differencing (Greene, 2012), because the variables should be integrated of the same order. This study adopted HT (1999) techniques to verify the presence of unit root. These tests allows for heterogeneous serially correlated errors, and suitable for data sets with small number of panels like in this study (Greene, 2012). The following equation has been considered by HT (1999) to test unit root.

$$\Delta X_{i,t-1} = \alpha_i + \beta_i X_{i,t-1} + \sum_{j=1}^{k} \gamma_{i,j}\ \Delta X_{i,t-j} + \ \varepsilon_{i,t} \qquad (3)$$

Where Δ is first difference operator, $X_{i,t}$ is dependent variable, $\varepsilon_{i,t}$ is the white-noise disturbance with a variance σ^2 of ,1,…, N indexes county and 1,…,T indexes time.

Panel ARDL specification and co-integration tests

ARDL F-bounds test co integration was used to estimate this study. These tests allow diverse cross-sectional interdependences along with other different individual effects to ascertain the co integration (Pedroni, 2004). Estimation of co integrating relationship requires that all panel data series variables in the model to be integrated order of one. However, panel ARDL model overcomes this problem by introducing F-bounds testing procedure to establish long-run relationship among variables. It does not require, as such, that variables of interest have the same order of integration to model

long-run relationship (Pesaran et al., 2001; M'amanja and Morrissey, 2005). The error correction framework of the series can be represented as follows

$$\Delta lny_{i,t-1} = \beta_0 + \sum_{i=0}^{k}\beta_1 \Delta lnrg_{i,t-1}\ + \sum_{i=0}^{k}\beta_2 \Delta lncg_{i,t-1} +$$
$$\sum_{i=0}^{k}\beta_3 \Delta lnng_{i,t-1} + \sum_{i=0}^{k}\beta_4 \Delta lnar_{i,t-1} + \sum_{i=0}^{k}\beta_5 \Delta lnhc_{i,t-1} +$$
$$\sum_{i=0}^{k}\beta_6 \Delta lncr_{i,t-1}\ \sum_{i=0}^{k}\beta_7 \Delta lnec_{i,t-1} +$$
$$\sum_{i=0}^{k}\beta_8 \Delta lntc_{i,t-1} + \gamma ECM_{i,t-1} + \ \varepsilon_{i,t} \qquad\qquad (5)$$

In this equation γ_t is the effect multiplier that measures the immediate effect that a change in G_t will have on change in Y_t. On the other hand ECM_{t-1} is the feedback effect, and shows how much of the disequilibrium is being corrected, that is, the extent to which any disequilibrium in the previous period effects any adjustment. Theoretically, the coefficient of ECM_{t-1} variable is supposed to have negative sign for convergence. The variable ECM_{t-1} is the ECT which captures the long-run effect between variables. ECM has the strength of retaining both short-run and long-run information.

The estimation results can be biased and inconsistent if econometric problems such as heteroscedasticity, serial correlation and correlation of error term occur in the model. Therefore, diagnostic checking was essential to ensure the model was free from econometric limitations.

RESULTS AND DISCUSSION

Panel unit root tests

Accordingly, HT (Harris–Tzavalis, 1999), unit root test was applied at level and at first difference and result is presented in Table 4.

The results in Table 2 indicate that all variables were stationary at all level except GCP per capita at 4% level of significance. Thus the null hypothesis of non-stationary for all cannot be rejected and hence the series contains a unit root. However, they become stationary after the first difference implying that the variables are integrated of order one, I (1). However, differencing of a non-stationary series solves the problem of spurious regression results; it leads to a loss of important information about long-run properties of the study variables.

Panel co integration test

This study applied panel autoregressive distributed lag model (ARDL) approach introduced in Pesaran et al. (2001). Given the relatively small sample size in the present study, this study extracted the appropriate critical values from Narayan (2004). In this study, ARDL F-bounds test for panel co integration was applied and the result for co integration analysis between county real GCP per capita and the regressors is shown in Table 3. From the result in the table, the computed F-statistic of the model was 6.26 which is higher than the upper bound critical value (3.39) at 5% level of significance. This

Table 2. Panel unit root tests using HT.

Variable	Statistic	Z	P-Value	Variable	Statistic	Z	P-Value	Order of integration
$ln\ y$	0.5352	0.495	0.6896	$\Delta ln\ y$	-0.6761	-12.758***	0.0000	I(1)
$ln\ cg$	0.1754	-4.568***	0.0000					I(0)
$ln\ rg$	0.1627	-4.745***	0.0000					I(0)

The null hypothesis is that the series is non-stationary or the series has a unit root. ***, **: 1, and 5% significance level; Δ symbol indicates that the first difference of the variable was taken.

Table 3. F-Bounds test result for panel co integration relationship.

Test statistics	Value	Lag	Significance level (%)	Bounds critical values	
				I(0)	I(1)
F-Statistics	6.261707**	4	1	2.79	4.10
K	8		5	2.22	3.39
			10	1.95	3.06

Null hypothesis: No level relationship; ***, **: 1 and 5% significance level; Critical values were obtained from Narayan (2004) case II, restricted trend intercept and no trend for 47 observations, pp. 26-28. The number of regressors is 8.

implies that there exists a long-run relationship among the real GCP per capita and regressors in the model. To determine the long-term elasticities, this study employed the panel ARDL model technique. The main strength of ARDL test is that it is more robust and performs better for small sample size like in the current study.

Long-run effect of government recurrent expenditure on growth

Table 4 presents the result on effect of county recurrent government expenditure (Rg) on county GCP growth in the long-run.

The individual panel ARDL result revealed that the effect of county recurrent expenditure on economic expansion was positive and statistically significant in the long-run. Thus, one percentage point increase in recurrent spending would cause an increase in real GCP per capita by 0.17%. The result confirmed the fact that most functions of counties are on recurrent spending like health, education and pre-primary service (OCOB, 2019). Also, the significant relationship in counties can be attributed to high recurrent expenditure, for example, the approved budget allocation on recurrent and development spending was 62.0 and 38.0%, respectively, in 2014/15 (OCOB, 2017). Further, Kenya's private consumption spending recorded the highest growth since 2013, of 7.0% in 2017, accelerating further GCP growth (GoK, 2019; KNBS, 2019). The expansionary expenditure, as explained, can accelerate growth of the output in long-run until resources are fully employed in counties. The result is consistent with other studies (Mudaki and Masaviru, 2012; Gebreegziabher, 2018) on positive effect of

recurrent expenditure on economy in long-run. In contrast, Mutie (2014), Oguso (2017) and Maingi (2017), found a negative relationship between recurrent expenditure and growth.

From the results on Table 4, the effect of county capital spending on real GCP growth was positive but insignificant at any conventional level of significance in long-run. The result generally revealed that county government capital expenditure did not add significantly to economic expansion in 47 counties during the period under review. This can be justified since most functions of counties are on recurrent expenditure like health and education sectors. Usually, there is always a lag between capital allocation, disbursement and spending. Most often, the actual capital amount disbursed relative to recurrent expenditure is very small and may not have been enough to have a significant effect on economy (OCOB, 2017). The above finding is consistent with the conclusions of other studies like, Nanjala (2015) and Muguro (2017), which point to insignificant relationship in Kenya in the long-run. In contrast, other studies (Oguso, 2017; Gebreegziabher, 2018), concluded that a positive relationship exists in the long-run.

The coefficient of human capital was positive and insignificant at the 5% level in the long-run. The estimated coefficient of human capital of the county economy has a positive sign but not significant at any conventional level. A possible explanation for insignificant result is the low level of county spending in capital expenditure (infrastructure on education), probably because effects from education sector would have very long lags, cost of education and inequity in access, market failure, under-enrollment, school drop-out, low education expenditure absorption rate and corruption

Table 4. Long-run regression result based on AIC-ARDL (0, 1, 0, 3, 1, 1, 1).

Variable	Coefficient	Standard error	t- Statistics	P-value
$\ln rg$	0.172109**	0.074648	2.305608	0.0221
$\ln cg$	0.039798	0.044916	0.886040	0.3766
$\ln ar$	0.737254**	0.357025	2.064994	0.0401
$\ln cr$	0.326320***	0.083228	3.920807	0.0001
$\ln ec$	0.217309***	0.050008	4.345518	0.0000
$\ln hc$	0.069975	0.167153	0.418631	0.6759
$\ln tc$	-0.203137*	0.113608	-1.788058	0.0752
$Cons$	0.298654	0.190859	1.564786	0.1191
Goodness of fit test		R^2 = 0.836753	Adjusted R^2 =	0.826221
LM Test		F(4,210) = 0.864524	Prob > F =	0.4861
Breusch - Pagan test		F(17,214) = 10.03735***	Prob > F =	0.0000
Pesaran CD		(z) = -1.290885	Pr =	0.1967
Ramsey-reset test		F(1,214) = 0.662835	Pr =	0.4165
F statistics = 83.58966*		P-value(F) = 0.0000		
Goodness of fit test		R2 = 0.869115	Adjusted R2 =	0.858718

***, **, *: 1, 5 and 10% significance level; $\ln y$ -County real Gross County Product (GCP) per Capita, $\ln cg$ - County capital expenditure, $\ln rg$- County recurrent expenditure, $\ln ar$ - Absorption rate of County expenditure, $\ln hc$ - County Human capital, $\ln cr$ - County Corruption rate, $\ln tc$ - County Total Crime rate, $\ln ec$ -Electricity Consumption.

(Adawo, 2011; OCOB, 2017). This result is consistent with several studies (Kweka and Morrissey, 2000; Cardenas, 2007; Adawo, 2011) in that it found human capital to be insignificant. In contrast, Husnain et al. (2011); Gebrehiwot (2015); Kartal et al. (2017); and Mohsin et al. (2017) point a positive relationship.

The estimated coefficient of county expenditure absorption rate is positive and statistically significant in the long-run at 5% level. The significant relationship can be attributed to improved spending rate in counties of over 65% (OCOB, 2017). Further, this demonstrates that economic growth is often tied to public expenditure, that is, failure to spend budgeted money directly affects the rate at which the county economy expands in the long-run. The conclusions are in agreement with Becker et al. (2012) study in Europe but contrast Claudia and Goyeau (2013) study in Europe, and Ionica et al. (2017) study in Romania.

The results of the regression analysis sustain the hypothesis that total crime has a 10% statistical significant negative effect on county growth. The effects of crime on county businesses can be particularly damaging because they can involve both short-period costs and long-term consequences for economic development by diverting resources to crime prevention measures and otherwise discouraging private investment and thus decelerating county economic growth in long-run. A number of studies report that crime decelerates growth in the economy (Cardenas, 2007; McCollister et al., 2010), whereas other holds that the effect is ambiguous or even absent (Chatterjee and Ray, 2009; Goulas and Zervoyianni, 2013).

Corruption was positive and statistically significant at 5% level in counties. The result was against prior expectation that corruption perceptions rate has significance and negative effect when linked to economic growth. However, this result can be attributed to the data on the number of reported cases to EACC which under-estimate considering that not many corruption cases are actually reported in Kenya. Further, numerous studies (Mo, 2001; Pellegrini, 2011) had demonstrated that the negative relationship between corruption and economic growth was likely to fade away when other specific variables are included in the analysis. In addition, Mo (2001) and Pellegrini (2011) argued that the effect of corruption on economic expansion becomes positive after adding human capital and other macroeconomic variables. Other studies support ambiguous results between variables (Mo, 2001; Hanousek and Kocenda, 2011; Pellegrini, 2011).

The effect of electricity consumption on real GCP is positively related and significant at 5% in long-run. Almost all consumption and investment activities in county level use electricity. Empirical results support the findings, for example, Odhiambo (2015), Shaari et al. (2012) and Hammed (2016) but Javid et al. (2013) contrasted the result.

Short-run impact of county recurrent expenditure on economic growth

After the long-run co-integrating analysis, the next step is to estimate the short-run dynamic parameters within the

Table 5. Short-run regression result based on AIC-ARDL (1, 0, 1, 1, 3, 1, 1, 1).

Variable	Coefficient	Standard error	t- Statistics	P-value
$\Delta ln\ y$	0.121080*	0.064295	1.883196	0.0613
$\Delta ln\ rg$	0.041532**	0.017191	2.415894	0.0165
$\Delta ln\ cg$	0.012064	0.010664	1.131342	0.2595
$\Delta ln\ ar$	0.146693***	0.052704	2.783324	0.0059
$\Delta ln\ cr$	-0.022315***	0.008413	-2.652314	0.0086
$\Delta ln\ hc$	0.077260***	0.025301	3.053665	0.0025
$\Delta ln\ ec$	0.200397***	0.014893	13.45537	0.0000
$\Delta ln\ tc$	-0.105820***	0.021968	-4.816972	0.0000
ect_{t-1}	-0.241310***	0.031560	-7.646052	0.0000
$Cons$	0.069422***	0.009716	7.145338	0.0000
LM test		F(4,205) = 0.354537		Prob > F = 0.8407
Breusch - Pagan test		F(20,209) = 7.176797***		Prob > F = 0.0000
Pesaran CD		(z) = -0.891176		Pr = 0.3728
Ramsey-reset test		F(1,209) = 1.053198		Pr = 0.3060
F statistics = 44.15612*		P-value(F) = 0.0000		
Goodness of fit test		R^2 = 0.641592		Adjusted R^2 = 0.627062

***, **, *: 1, 5 and 10% significance level;   Δ - First difference operator, ect_{t-1}- representing the error -correction term.

panel ARDL framework. Here, the lagged value of all level variables (a linear combination is denoted by *CointEq*) was retained in the panel ARDL model. Consistent with the long-run findings, the estimated short-run regression results revealed similar results, as presented in Table 5. From the table, in the short-run recurrent expenditure was positive and statistically significant at five percent level of significance. Since this result was contrary to economic theory, the study posits that the result should cautiously be interpreted as a special case for the 47 county's economy in the short-run, which is not only characterized by poor institutional quality but also weak infrastructural base. This finding can be attributed to a high recurrent allocation being experienced in most counties and hence increasing purchasing power of the population in the short-run (Romer, 2001; OCOB, 2019). Higher recurrent allocation of the county accelerate demand for commodities, which in turn allows suppliers to increase use of their productive capacities by hiring new factor of production thus grow output. This study was consistent with the findings obtained by Age'nor (2007); Mudaki and Masaviru (2012); Claudia and Goyeau (2013) and Gebreegziabher (2018). In contrast, Mutie (2014), Maingi (2017) and Gupta (2018) found a negative relationship.

From the result in Table 5, the impact of county capital spending on real GCP per capita was insignificant in the short-run. Capital allocation is typically seen as spending creating future benefits, as there could be some lags between when it is incurred and when it takes effect on the county. They are more discretionary and are made of new programs that are yet to reach their stage of completion (Age'nor, 2007). Most often, the capital budget relative to recurrent expenditure is very small and may not have been enough to have impact on county growth in short-run (OCOB, 2019). The above findings agree with the results of Muguro (2017) and Oguso (2017) in Kenya; however this finding contrasts other studies (Maingi, 2017; Gebreegziabher, 2018), that shows that positive relationships exist in the short-run.

The coefficient of human capital was positive and significant at the 5% level. This result can be attributed to increase in county and national government education sector budget, thus stimulating productivity for private factors of production and the accumulation of private and public capital, thus economic growth (OCOB, 2019). In addition, the government of Kenya offers secondary education to population at no cost or at subsidised level. The result is similar with the results of Husnain et al. (2011), Gebrehiwot (2015), Kartal et al. (2017) and Gebreegziabher (2018). In contrast, Adawo (2011) found that that the relationship is negative.

From the result in Table 5, county expenditure absorption rate was positive and significant to at 5% level in short-run. This result is consistent with the long-run result. If absorption rate is lower there will be deterioration of the economy. The finding agrees with those of Becker et al. (2012) study on Europe but contrast Claudia and Goyeau (2013) study in Europe, and Ionica et al. (2017) study in Romania on effect of fund utilization on growth.

County Crime rate was negative and significant at 5% level of significance in relation to county economic growth. Crime increase imposes large costs to both government and private sectors which have a negative impact on investment and growth in short-run. Other studies report that crime decelerates county growth

(Cardenas, 2007; McCollister et al., 2010), whereas other concludes that the impact is insignificant (Chatterjee and Ray, 2009; Goulas and Zervoyianni, 2013).

Corruption was negative and statistically significant at 5% level in the short-run. Thus, corruption impedes county economic growth by distorting other macro-economic factors at county level in the short-run. County corruption can result in fund misallocation when decisions on how public resources will be invested are made by a corrupt county agency (Rodden, 2004). This result is similar to those of Murphy et al. (1991). Also, other studies find ambiguous effects of corruption (Mo, 2001; Hanousek and Kocenda, 2011; Pellegrini, 2011).

Effect of electricity consumption on real GCP per capita is positively related and statistically significant at 5%. Population access to affordable electricity is a key condition to achieving county economy growth and poverty reduction in Kenya. Empirical results agree with the conclusions of Odhiambo (2015), Shaari et al. (2012) and Hammed (2016), but Javid et al. (2013) contrasted the result.

The estimated coefficient of the error correction term (ECT) has the appropriate negative sign (-0.24) and statistically significant at 1%. However, ECT_{t-1} is quite low, that of -0.24, implying that equilibrium slowly converge to long-run equilibrium in counties. This implies the speed of adjustment is 0.24% which is relatively low where 24% of disequilibrium is corrected in the first year. The implication is that disequilibrium can persist for a long period of time, hence explaining the significance of the lagged effects on county growth in Kenya.

Adjusted R^2 and p-values for both models showed that the overall goodness of fit of the models was satisfactory. The F-statistics measuring the joint significance of all regressors was significant at 1% for the model. Further, the regression model passed all diagnostic tests except heteroscedasticity, which was corrected by the use of panel robust standard error.

Conclusion

The individual panel ARDL finding showed the effect of county recurrent spending on county economic growth was significant and positive in counties. This was true on both long-run and short-run regression findings. As a result, county spending augments the aggregate demand, which stimulates an increased output depending on county spending multipliers. The county governments stimulate spending through increasing purchasing power of the population through demand for raw materials, which ultimately creates new jobs. The significant relationship in counties can be attributed to high recurrent expenditure budget allocation over the years. Furthermore, most functions of counties are on recurrent spending like health, education and pre-primary service.

The panel ARDL regression model results revealed that capital expenditure was positive but insignificant both in the long-run and short-run. Implying, the positive effect of higher public investment is offset by the negative results of higher taxes. In addition, most functions of counties are on recurrent expenditure like health and education. Further, it could be due to a failure of government spending; that is lack of prioritization of government projects, weak budget preparation, crowding out effect, ineffective monitoring and evaluation units to check the quality of capital expenditure, and inefficient financial planning processing. Also, it could be that these public investments need a longer period to flourish.

The findings on control variables used in this study confirm the importance of absorption rate of expenditure, human capital and electricity consumption as key accelerators of economic expansion in counties. However, corruption and crime rate in counties were identified as factors that impede GCP growth in Kenya.

The estimated coefficient of the error correction term in short-run panel ARDL regressions models was low, implying that the adjustment process towards equilibrium was fairly low, hence explaining the significance of lagged terms. This means that disequilibrium can exist for a long period in Kenyan counties.

Recommendations

From a recommendation standpoint, this study submits that for a robust economic growth, recurrent expenditure is necessary as it stimulates output depending on county expenditure multipliers. However from past results, government recurrent spending, despite its significant role in welfare advancements has been detrimental to economic growth; for it to enhance growth there is the need for policy makers in counties to examine its composition. Even though recurrent spending currently consumes on average over 63% of county budget, by this study results, it should be noted that its positive contribution to county economy is very negligible. It is likely that the multiplier effect of capital allocation could outweigh that of recurrent in the long-run.

The results also showed that capital public expenditure has positive but insignificant effect on economic growth in Kenya. This suggests that there is need for the county authorities to reduce government recurrent expenditure so as to free resources which can be used for development purposes. The county government needs to increase its investments and introduce such policies that would protect and enhance private investments. There is also the need for policies that will help control those investments that compete with private investments. Also, enhance budgetary control to ensure that exchequer issues are utilized for the approved purpose.

Since the county allocation and economic expansion co-move towards long-run equilibrium, the county authority should constitute strong monitoring and evaluation mechanisms to evaluate county public financed projects in to get value for budget on those county projects.

Areas of further research

The empirical work in this study was done on the macroeconomic level, while the analysis of mechanisms through which county spending become more effective should involve mostly microeconomic investigation. Also, macroeconomic analysis should be extended to include the source of funds (tax revenue and budget deficit) used to finance county public expenditure, need to be identified and taken into account in the regression analysis.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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Full Length Research Paper

Factors affecting customers' satisfaction towards the use of automated teller machines (ATMS): A case in commercial bank of Ethiopia, Chiro town

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The purpose of this study is to investigate the factors affecting customers' satisfaction towards the use of Automated Teller Machines (ATMs). To address the research objectives, 200 questionnaires were distributed to respondents. A total of 176 were returned which is equivalent to 88% of the total response rate. Data were collected using semi-structured questionnaires and they were organized, coded and analyzed using Minitab18 software. The collected data were analyzed using descriptive Statistics, correlation and multiple regression model. Descriptive analysis showed half of the respondents (50%) agreed that time saving is the main reason to use ATM services. Majority of customers use ATM Banking for Cash withdrawal services and majority of the CBE customers were satisfied by the ATM services provided to them. However, customers were facing different problems associated with ATM service. Some of the problems were the unreliable network for ATM services, limited amount of money to be withdrawn per day, reduction in balance without cash payment, bank charges for ATM services, machine out of cash, card gets blocked or locked up and waiting in line to use ATM Machines. The multiple regression findings also revealed that responsiveness, efficiency, appearance, reliability and convenience of ATM have a significant and positive influence on customers' satisfaction.

Key words: Commercial Bank of Ethiopia (CBE), automated teller machine (ATM), customer satisfaction, service quality.

INTRODUCTION

In modern economics, service sector plays a significant role side by side with manufacturing and other sectors. According to Agbor (2011), banking sector does its activities socially and economically in a country. Service personnel of such service industries are concerned about their service quality and client satisfaction. This

calls for the application of more efficient method of service delivery that makes it possible for the clientele to meet their service expectations.

In the age of modern technology, the banking sector is considered as life blood of global business. Innovation in technology increases the efficiency of banking operations and system to increase the competitive market share. Banking industry is fast growing with the use of technology. In the last few decades, information technologies have changed the banking industry and have provided a way for the banks to offer differentiated products and services to their customers (Barun et al., 2014). Electronic based business models are replacing conventional banking system and most banks are rethinking business process designs and customer relationship management strategies. It is also known as e-banking, online banking which provides various alternative e-channels to using banking services, that is ATM, credit card, debit card, internet banking, mobile banking, electronic fund transfer, electronic clearing services etc. (Singh and Komal, 2009).

Automated Teller Machine (ATM), is a computerized telecommunications device that provides the customers of a financial institution with access to financial transactions in a public space without the need for a human clerk or bank teller (Adepoju and Alhassan, 1970). Automated Teller Machine (ATM) has been seen by both scholars and practitioners as one of the most innovative techniques that have been introduced into the banking system. This technique enables banks to provide customers with quality and satisfactory services. The increasing numbers of bank customers preferring this technique do so not only because of its self-service delivery attribute and increased autonomy in executing transactions but also due to diversified financial services it offers (Akpan, 2016). ATMs save time and provide convenience to the customers due to the fact that the card holders do not need to go to bank branches to withdraw money, and the card holder is able to make shopping, travelling etc. ATMs offer a 24 h banking service to the bank customer like cash withdrawal, fund transfer, balance inquiry, card to card transfer, bill payment, accept deposit etc (Kumbhar, 2011).

An ATM allows a bank customer to conduct their banking transactions from almost every other ATM in the world. The developments of technologies have enabled organizations to provide superior services for customers' satisfaction (Surjadjaja et al., 2003). The availability of several ATMs country wide has greatly improved the quality and convenience of service delivery; however, some researchers have stated that users' satisfaction is an essential determinant of success of the technology-based delivery channels (Tong, 2009). According to Singh and Komal (2009), ATM services enhance operations and customer satisfaction in terms of flexibility of time, add value in terms of speedy handling of voluminous transactions which traditional services were unable to handle efficiently and expediently. Moreover, today customers of any service including banking are interested in the ease, reliability and faster service. They want autonomy in transacting and so that they prefer self-service delivery system (Khan, 2010).

In Ethiopia, banking services offer different services like mobile banking, internet banking, SME banking, credit card, Short Message Service (SMS) banking, foreign currency account, Automated Teller Machine services, locker service, and loan and advances. They also offer corporate banking, loan syndication, real-time online banking for corporate clients. Service charges, quality of service, perceived value and customer's satisfaction are the main sources of success in any service factory. Commercial Bank of Ethiopia (CBE) is the first bank in Ethiopia to introduce ATM service for local users. Currently, CBE has more than 20 million account holders and the number of Mobile and Internet Banking users also reached more than 1,736,768 as of June 30th, 2018. Active ATM card holders reached more than 5.2 million. As of December 31, 2018, 2361 ATM machines and 12,057 POS machines were available (CBE, 2018). However, despite the fact that the ATMs are strategically installed in branches, hotels, universities, malls and other public places, only 22.5% of the total CBE's customer were using ATM at the end of 2016. Moreover, due to lack of appropriate infrastructure and related problems (frequent breakdown of ATM service, ATM machines being out of cash, cards being blocked, unreliability of ATM service, lack of sufficient technicians who solve breakdown of ATM machine in all bank). It failed to increase customer satisfaction and profitability. Therefore, the researchers prompted to investigate and find out the factors affecting customer satisfaction towards the use of ATMs cards at state owned Commercial Banks in Chiro Twon.

REVIEW OF LITERATURE

ATM and ATM services

ATM is a computerized machine that provides the customers of banks the facility of accessing their accounts for dispensing cash and carrying out other financial transactions without the need of actually visiting a Bank Branch. ATM is an Electronic Fund Transfer terminal capable of handling cash deposits, transfer between accounts, balance enquiries, cash withdrawals and pay bills (Hood, 1976). ATM refers to a machine that acts as a bank teller by receiving and issuing money to and from the ATM account holders/users. The features of ATM include a computer terminal, record keeping system and cash vault in one unit. It permits customers to enter a financial firm's bookkeeping system with either a plastic card containing a personal identification number by punching a special code number into a computer

terminal linked to the financial firm's computerized records (Peter and Sylkia, 2008). Worldwide, ATMs have made it easy for ATM users to get some bank services out of bank offices which inter alia include provision of mini bank statement, cash withdrawal, cash deposit, transfer of funds from one account to another, balance enquiry, purchase of some utilities like electritown and air time, bill payments, and tax payments (Tillya, 2013). According to Lovelock (2000), today ATM machine gives convenience to bank`s customers. This means that nowadays, ATMs are located at convenient places, such as at the universities, air ports, railway stations, hotels, bus stands, supermarkets, petrol stations, and not necessarily at the bank`s premises. ATM provides 24 h service, meaning that ATMs provide service around the clock. The customer can withdraw cash up to a certain limit during any time of the day or night (Akrani, 2011).

ATM service quality and customer satisfaction

Akinmayowa and Ogbeide (2014) found that convenience, efficient operations, security and privacy, reliability and responsiveness are significance dimensions of ATM service quality, adding that ATM service quality has a significant positive relationship with customer satisfaction. Salami and Olannye (2013) investigated customer perception about the service quality in selected banks in Asaba Delta State. The study found that the dimensions of empathy, tangibility, assurance and responsiveness significantly affect customers' perception of service quality. Khan (2010) identified that the key dimensions of automated banking service quality include convenience, reliability, privacy, ease of use, and responsiveness. Ebere et al. (2015) further argued that efficient operation, convenience, security and privacy, responsiveness and reliability influence customers' satisfaction. Lovelock (2000) identified that adequate number of ATMs, secured and convenient location; user-friendly system, and functionality of ATM are the important factors for the customer satisfaction. Moreover, Al-Hawari and Ward (2006) compiled a list of five major items about ATM service quality that include convenient and secured locations, functions of ATM, adequate number of machines and user-friendliness of the systems and procedures.

Conceptual frame work

This conceptual frame work describes the relationship between dependent variable (customer satisfaction) and independent variables (dimensions of service quality). The model identifies responsiveness, reliability, convenience, security and privacy, appearance and operation efficiency as the main dimensions of service quality (Figure 1).

METHODOLOGY

Research design

This empirical study was based on primary data that were obtained from ATM users of the selected commercial banks in Chiro town. Descriptive, Correlation and Multiple regression analysis were employed for the study. Descriptive statistics was applied to give a clear picture of respondents' demographic profiles and to answer some research questions like reasons to prefer ATM, degree of satisfaction, challenges using ATM services, purposes of using ATM, how long respondents had owned an ATM card and how often respondents use ATMs cards etc. The correlation analysis was conducted to assess the relationship between independent variables and dependent variable. Multiple regression method was used to examine the simultaneous effects of several independent variables on a dependent variable

Data collection

The study used mainly the data obtained from primary sources. Primary data were collected from customers who were using ATM services in different branches of CBE in Chiro Town. Primary data were collected using semi-structured questionnaires. 200 Questionnaires were distributed by using convenience sampling techniques in different branches of CBE and 176 questionnaires were completed and used for the analysis.

Population and sampling size determination

The study targeted only ATM users of Commercial Bank of Ethiopia in Chiro town. A non-probability sampling system specifically, convenience sampling technique was used during the study. This is because the total number of population from which the sample was drawn was not known to the researcher. In this study a sample of 200 ATM users of CBE in Chiro town were selected. To get each respondent, convenience sampling method was used where customers were intercepted at the branches of the banks until the required sample size was reached.

Data analysis

Descriptive, Correlation and Multiple regression analysis were employed for the study. Descriptive statistics was applied to give clear picture of the respondents' profiles. To determine the relationship between dependent and independent variables Pearson correlation was used. Furthermore, the regression analysis was applied to measure the contribution of the independent variable to the dependent variable. Data were processed with the help of Mintab18 software.

Model specification

According to Sekaran (2003), multiple regression analysis is done to examine the simultaneous effects of several independent variables on a dependent variable using interval scale. In other words, multiple regression analysis aids in understanding how much of the variance in the dependent variable is explained by a set of predictors. To assess the determinant factors of customer satisfaction, the model proposed six predictors. These six predictors are Responsiveness (X1), Reliability (X2), Convenience (X3), Security and privacy (X4), Appearance (X5) and Service efficiency
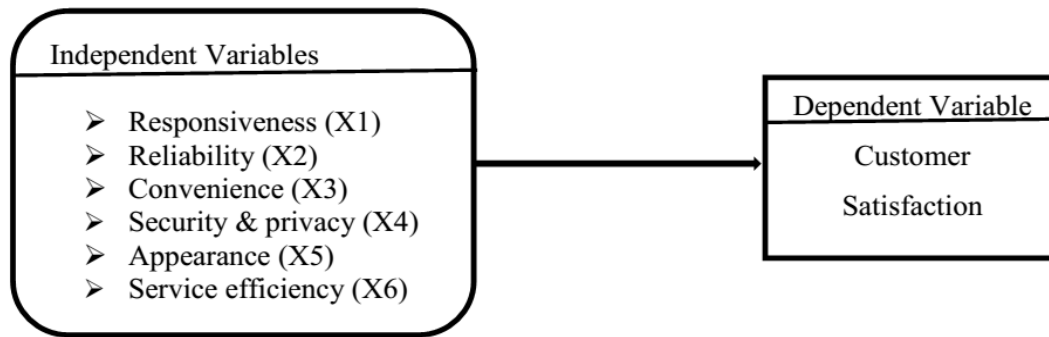
Figure 1. Relation between Service Quality Dimensions and Customer Satisfaction.
Source: Researchers drawing.

Table 1. Sex of respondents.

Sex	Count	Percent	CumCnt	CumPct
Female	53	30.11	53	30.11
Male	123	69.89	176	100.00
N=	176			

Source: Survey Data (2018).

(X6). For the analysis, the following MLR model was developed as follows:

$$Y = β0 + β1(x1) + β2(x2) + β1(x3) + β2(x4) + β1(x5) + β2(x6) + ε$$

Where,
(i) Y - is the value of the dependent variable (in the case of this study Customer satisfaction).
(ii) β0 - the regression constant
(iii) The parameters βj, j = 1, 2 … k are called the regression coefficients of parameters
(iv) ε - is the total error of prediction (residual).

EMPIRICAL RESULTS AND DISCUSSION

Descriptive analysis

Sex of respondents

Table 1 revels that out of 176 respondents, 123 (70%) were males and 53(30%) were females. This implies that males make use of ATM services than the females in Chiro town.

Age of respondents

Table 2 reveals that 47(26.70%) of respondents were between 18 and 25 years; 68 (38.6%) respondents were between 26 and 35 years. Another 39 (22.16%) were between 36 and 45 years, 19 (10.8%) respondents were between 46 to 55 years, while 3 respondents,

representing about 1.7% were above 55 years. The result implies that majority of the customers that patronize banks were 26-35 age groups

Education level of respondents

The academic attainment of the respondents shows that more than half of the users of ATMs (56%) were degree holders, 30% of the users were Diploma holders and 15.3% of the users completed high school. This implies that most of ATM Services customers were educated (Table 3).

Occupational distribution

Occupational distributions of the respondents are shown in Table 4. The results reveal that out of the total respondents 42.6% were civil servants, 36.9% were students, 13% were self -employed customers and about 6.8% were private services employed. The result showed that civil servants form the larger percentage of banks' customers and as well as active users of ATMs in Chiro town.

Reasons why customers prefer to use ATM services

Table 5 reflects that 12.50% respondents were using ATM to get banking service at anytime and anywhere,

Table 2. Age of respondents.

Age	Count	Percent	CumCnt	CumPct
18-25 years	47	26.70	47	26.70
26-35 years	68	38.64	115	65.34
36-45 years	39	22.16	154	87.50
46-55 years	19	10.80	173	98.30
Above 55	3	1.70	176	100.00
N=	176			

Source: Survey Data (2018).

Table 3. Educational level of respondents

Education Level	Count	Percent	CumCnt	CumPct
Degree	98	55.68	98	55.68
Diploma	51	28.98	149	84.66
High School	27	15.34	176	100.00
N=	176			

Source: Survey Data (2018).

Table 4. Occupational distributions.

Occupation	Count	Percent	CumCnt	CumPct
Government Service	75	42.61	75	42.61
Private Service	12	6.82	87	49.43
Self-employed	24	13.64	111	63.07
Students	65	36.93	176	100.00
N=	176			

Source: Survey Data (2018).

Table 5. Reasons why ATM is preferred.

Reasons to prefer ATM	Count	Percent	CumCnt	CumPct
Banking Service anytime and anywhere	22	12.50	22	12.50
Ease to Use	15	8.52	37	21.02
Faster Transaction	38	21.59	75	42.61
Time Saving	101	57.39	176	100.00
N=	176			

Source: Survey Data (2018).

8.52 % respondents preferred it as it is easy for them to use, 21.59 % preferred ATM banking for its faster transaction, 57.39 % used it since it saves time. This is to mean, it is manly used in order to avoid long queues in banks.

Degree of satisfaction

Figure 2 shows that only about 33 (18.75%) and 10 (5.6%) of the respondents were dissatisfied and highly dissatisfied respectively with the ATM service of their banks. However, 67(38%) and 49(27.8%) indicated being satisfied and highly satisfied respectively and while 17 (10%) were undecided This implies that larger proportion of banks' customers in Chiro town were satisfied with ATM services of their banks.

Purpose of using ATM

With reference to Table 6, the study reveals that majority
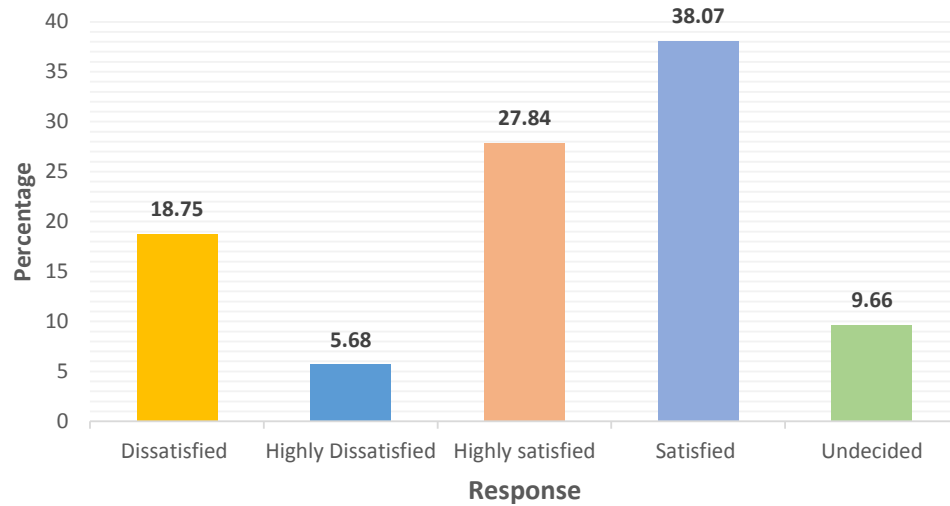
Figure 2. ATM usage and degree of customer satisfaction.
Source: Survey Data (2018).

Table 6. Purpose of Using ATM services.

Purpose of Using ATM	Count	Percent	CumCnt	CumPct
Cash Withdrawal	156	88.64	156	88.64
Transfer Funds	20	11.36	176	100.00
N=	176			

Source: Survey Data (2018).

Table 7. How long respondents had owned an ATM card.

How long you are using ATM Card	Count	Percent	CumCnt	CumPct
<1 year	8	4.55	8	4.55
1-2 years	70	39.77	78	44.32
3-5 years	87	49.43	165	93.75
More than 5 years	11	6.25	176	100.00
N=	176			

Source: Survey Data (2018).

of the respondents 156 (88.64%) were using ATM Banking for Cash withdrawal and 20 (11.36%) of respondents were using ATM Banking for transfer funds. However, the study reveals that none of the respondents performed ATM banking transactions involving bill payments, balance enquiry, recharging of prepaid cards and cash deposit to their own accounts and different accounts.

Reponses on how long respondents owned an ATM card

The results in Table 7 shows that majority of the respondents 87 (49.4%) had owned an ATM card for 3-5 years, 70 (39.7%) of respondents had owned an ATM card for 1-2 years. 11 (6.25%) of the respondents had owned an ATM card for more than 5 years and 8 (4.5%) of the respondents had owned an ATM card for less than 1 year.

Responses on ATM banking frequency

With reference to Table 8, the majority of the respondents 77 (43.7%) engaged in ATM Banking twice a month, 49 (27.8%) engaged in using ATM Banking 3 times a month, 34 (19.3%) of the respondents engaged in using ATM

Table 8. How often do you use ATMs Cards?

How often do you use Cards in a	Count	Percent	CumCnt	CumPct
More than Thrice a month	34	19.32	34	19.32
Once a month	16	9.09	50	28.41
Thrice a month	49	27.84	99	56.25
Twice a month	77	43.75	176	100.00
N=	176			

Source: Survey Data (2018).
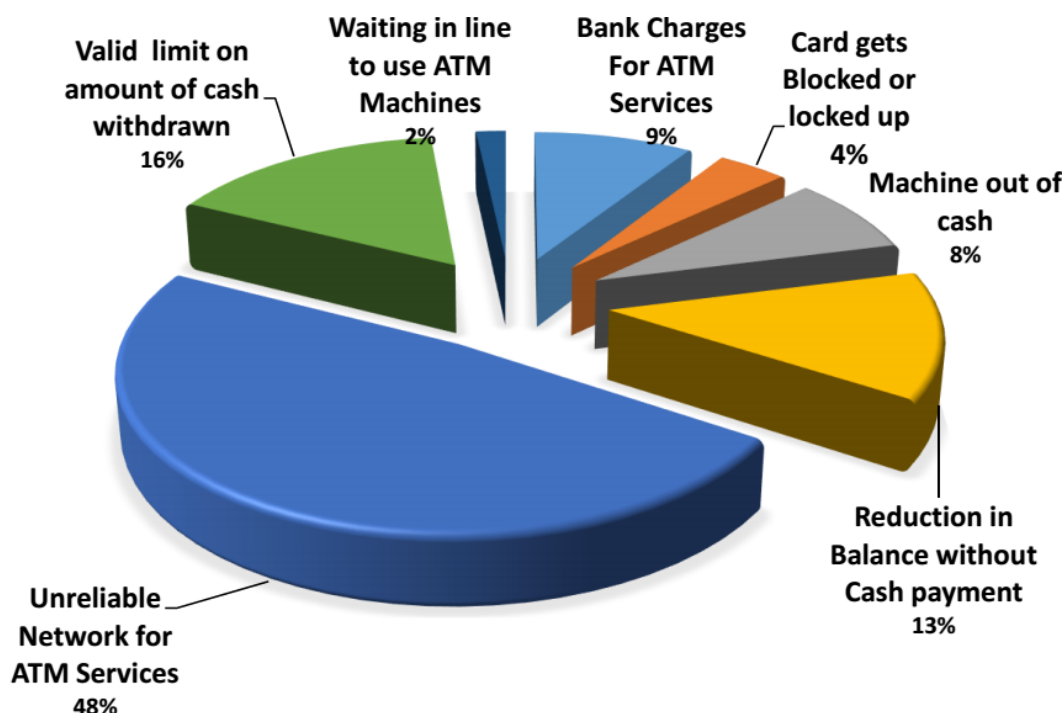
Figure 3. Challenges When Using an ATM services in Chiro Town.
Source: Survey Data (2018).

Banking more than thrice a month, while 16 (9%) of the respondents engaged in using ATM Banking once in a month.

Responses on challenges when using an ATM in Chiro Town

Figure 3 presents the problems associated with ATM transaction in the selected banks. It reveals that 16 (9.09%) of the respondents considered the problem of ATM of their bank branch to be bank charges for ATM services, 7 (4%) of the respondents perceived the problem to be card got blocked or locked up, 14 (7.95%) indicated the problem to be machine out of cash, 85 (48.30%) perceived the problem was unreliable network

for ATM services, 23 (13.07%) perceived the problem to be reduction in balance without cash payment, 28 (16%) believed it is limited amount of money to be withdrawn per day. Finally, waiting in line to use ATM Machines was stated by just 3 (1.70%) of the respondents. The conclusion here is that unreliable Network for ATM services ranks the first of the problems of ATMs in Chiro Town.

Reliability test

Table 9 indicates that all the reliability values of each construct are greater than the benchmark of 0.70 which was recommended by Hair et al. (2014). Therefore, all variables have crossed this acceptable level as Cronbach

Table 9. Cronbach's Alpha**.**

Omitted variable	Adj. total Mean	Adj. total StDev	Item-Adj. Total Corr	Squared multiple Corr	Cronbach's Alpha
Responsiveness	53.48	13.48	0.6429	0.4942	0.7571
Reliability	51.60	13.59	0.5455	0.4359	0.7713
Convenience	52.27	13.36	0.5746	0.3843	0.7653
Privacy	54.89	14.81	0.1400	0.0542	0.8291
Appearance	49.15	12.85	0.5245	0.4188	0.7792
Efficiency	53.25	13.29	0.5351	0.4512	0.7724
Satisfaction	47.83	12.41	0.7821	0.6316	0.7196
Alpha	0.7992				

* NOTE * Cronbach's alpha and omitted-variable correlations calculated with standardized data. Omitted Item Statistics
Source: Survey Data (2018)

Table 10. Pearson correlation analysis.

Variable	Responsiveness	Reliability	Convenience	Privacy	Appearance	Efficiency
Reliability	0.435 0.000					
Convenience	0.521 0.000	0.295 0.000				
Privacy	0.099 0.189	0.084 0.268	0.076 0.314			
Appearance	0.524 0.000	0.268 0.000	0.480 0.000	0.003 0.969		
Efficiency	0.296 0.000	0.579 0.000	0.335 0.000	0.201 0.007	0.237 0.002	
Satisfaction	**0.618** 0.000	**0.546** 0.000	**0.529** 0.000	**0.135** 0.074	**0.569** 0.000	**0.554** 0.000

Cell Contents, Pearson correlation P-Value
Source: Survey Data (2018).

Alpha of responsiveness, reliability, convenience, privacy, appearance, efficiency and satisfaction are 0.7571, 0.7713, 0.7653, 0.8291, 0.7792, 0.7724 and 0.7196 respectively. Since all the Cronbach's Alpha coefficients were greater than 0.7, the conclusion is drawn that the instrument had a good internal consistency of the items in the scale and was appropriate for the study.

Correlation analysis

Table 10 indicates Pearson correlation. The Pearson shows the relationship between responsiveness, reliability, convenience, privacy, appearance, efficiency and customer satisfaction.

The results indicate that there is positive and significant relationship between responsiveness and customer satisfaction (r = 0.618, p < 0.000), reliability and customer satisfaction (r = 0.546, p < 0.000), convenience and customer satisfaction (r = 0.529, p <0.000), appearance and customer satisfaction (r = 0.569, p < 0.000) and operations Efficiency and customer satisfaction (r = 0.554, p < 0.000). Similarly, there is a moderate positive correlation between privacy and customer satisfaction (r = 0.135, p < 0.074). The finding indicates that the highest relationship is found between responsiveness and

Table 11. Model summary.

S	R-sq	R-sq(adj)	R-sq(pred)
2.23303	63.16%	61.77%	59.60%

Source: Researcher (2018).

Table 12. Analysis of variance.

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Regression	**6**	**1359.48**	**226.580**	**45.44**	**0.000**
Responsiveness	1	82.59	82.586	16.56	0.000
Reliability	1	40.05	40.051	8.03	0.005
Convenience	1	21.50	21.500	4.31	0.039
Privacy	1	4.23	4.232	0.85	0.358
Appearance	1	86.80	86.797	17.41	0.000
Efficiency	1	98.58	98.576	19.77	0.000
Error	159	792.84	4.986		
Total	165	2152.32			

Source: Researcher (2018).

customer satisfaction (r = 0.618, p < 0.000). Unlike privacy, four service quality dimensions (reliability, convenience, appearance, and operations efficiency) have a strong positive and significant relationship with customer satisfaction.

Regression analysis

Model summary (Table 11) shows the results of entering six independent variables against customer satisfaction (dependent variable). The model described the overall relationships between dependent and independent variables (R), goodness of fit (R square) and the standard error of estimate. The value of (R) is (0.63); it determines the strength of the relationship between all independent variables and dependent variable. The results have shown that 63.16% variations are caused by independent variables.

The coefficient of determination (R^2) is (0.617); the value R square shows how close the data are to the fitted regression line. The R^2 value of 0.617 indicates that the model explains 61% of the attributes were responsible for overall customer satisfaction of ATM users. It means that there is a positive relationship between all independent variables and a dependent variable (customer Satisfaction). The independent variables represented in the responsiveness, reliability, convenience, privacy, appearance and operations efficiency amounted to the impact of these variables combined on the dependent variable through the Adjusted R Square of 0. 596. This indicates that the model explains roughly about 59% of the factors are responsible for customer satisfaction.

The ANOVA output was examined to check whether the proposed model was viable. Therefore, Analysis of variance in Table 12 indicated that responsiveness, reliability, convenience, privacy, appearance and efficiency were statistically significant in explaining customer satisfactions. The results showed that the overall model was significant (F=45.44, P value =0.000). Table 13 shows the VIF value <10. Thus the model does not have the phenomenon of multi-collinearity between the independent variables.

The unstandardized Beta Coefficients that represent the contributions of each variable to the model are presented in Table 13. The Beta Coefficients and p-values showed the impact of the independent variables on the dependent variable. The regression results confirmed that responsiveness, operations efficiency, appearance, reliability and convenience of ATM have a significant and positive influence on customer satisfaction. Their magnitudes are as follows: Responsiveness (β = 0.3442, p = 0.000) was found to have a significant effect on customers' satisfaction towards ATM service. The result is in support of the conclusion made by Akinmayowa and Ogbeide (2014), Ebere et al. (2015) and Adeleye and Samson (2015). Operations efficiency (β = 0.2873, p = 0.000) had the major effect on customers' satisfaction towards ATM service. This finding was supported by Akinmayowa and Ogbeide (2014) and Ebere et al. (2015). Appearance (β = 0.2205, p = 0.000) had a positive and significant effect on customer satisfaction. The finding of this study supported the conclusion made by Lovelock (2000). Reliability (β = 0.2176, p = 0.005) had significant effect on customers' satisfaction. The finding of this study is consistent with

Table 13. Regression coefficients.

Term	Coef	SE Coef	T-Value	P-Value	VIF
Constant	2.229	0.745	2.99	0.003	
Responsiveness	0.3442	0.0846	4.07	0.000	1.79
Reliability	0.2176	0.0768	2.83	0.005	1.69
Convenience	0.1434	0.0690	2.08	0.039	1.58
Privacy	0.0627	0.0680	0.92	0.358	1.05
Appearance	0.2205	0.0528	4.17	0.000	1.55
Efficiency	0.2873	0.0646	4.45	0.000	1.62
Regression Equation					
Satisfaction	=	2.229 + 0.3442 Responsiveness + 0.2176 Reliability + 0.1434 Convenience + 0.0627 Privacy + 0.2205 Appearance + 0.2873 Efficiency			

Source: Survey Data (2018).

Naeem and Arif (2011), Akinmayowa and Ogbeide (2014), Narteh (2013) and Adeleye and Samson (2015). Moreover, convenience (β = 0.1434, p = 0.039) had a positive and significant effect on customers' satisfaction. The result of the study supports the previous research by Akinmayowa and Ogbeide (2014), Ebere et al. (2015) and Narteh (2013). Finally, the results found that privacy (β = 2.906, p = 0.358) had a positive and insignificant effect on customers satisfaction.

In general, the results indicate that increasing the quality of service efficiency, responsiveness, appearance, reliability and convenience will inherently increase customers' satisfaction towards ATM service quality.

Conclusion

Based on the descriptive results, out of total respondents more than 50% agree that time saving is the reason to use ATM services, followed by faster transaction; banking service at anytime and anywhere is another significant reason to use ATM services. The study has revealed that majority of customers were using ATM Banking for cash withdrawal while second preference was to use ATM banking for transfer funds. The findings also lead us to conclude that, majority of the CBE customers were satisfied by the ATM services provided to them. However, customers faced different problems associated with ATM services. Some of the problems that customers indicated were unreliable network for ATM services, limited amount of money to be withdrawn per day, reduction in balance without cash payment, bank charges for ATM services, machine out of cash, card gets blocked or locked up and waiting in line to use ATM Machines.

Moreover, the regression analysis supported that responsiveness, efficiency, appearance, reliability and convenience of ATMs have positive and significant effect on customer satisfaction. The study findings further indicated that responsiveness were regarded as the most important factors by the customers and it has a significant impact upon customer satisfaction followed by Service efficiency, appearance and reliability.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations were forwarded;

(i) The respondents ranked the major problems that encountered while using the ATM services. Therefore, the bank should improve its service quality by solving problem of network failure, shortage of cash in ATM machines, limited amount of money to be withdrawn per day, reduction in balance without cash payment, bank charges for ATM services and machine out of cash by using different mechanisms. That is upgrading network system, periodic maintenance of machine, availing power supply, increasing the amount of money to be withdrawn and close follow up on cash availability in ATM) to resolve existing problems and improve satisfaction on ATM services.

(ii) The amount of money to be withdrawn from the bank using ATM machine should be increased more than it is now. This will help reduce congestion at the counter.

(iii) The banks should frequently and consistently inspect the ATM machines in order to avoid network failure, shortage of cash in ATM machine and machine breakdowns that may lead to inconvenience to the customers

(iv) The bank management should increase the number of ATM machine accessible in every branch and some selected areas like universities/colleges, hotels and hospital.

(v) The bank management should give training to employees how to treat customers and how to solve the ATM banking service problems.

(vi) Commercial bank of Ethiopia should enhance and diversify their services through ATMs. Banks should also improve ATM features to suit customers and use this

medium to build a strong and sustainable relationship with customers

(vii) Finally, commercial bank of Ethiopia should raise customer awareness on usage of ATMs by using mass media such as, television, radio and bill board as well as paste directive posters at every ATM centers. These will ensure that the services are easy and clear to enhance effective interaction for maximum customer satisfaction.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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Recruitment strategies of the banking industry in Nigeria: The head hunting panacea

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The purpose of the study is to examine the effect of headhunting recruitment strategy on employee retention strategy in the Nigerian banking industry. The objective is to examine the effect of headhunting recruitment strategy on employee retention in the banking industry. The study makes use of primary data by administering structured questionnaire to employees of Zenith Bank Plc, a money deposits bank in Egor local government area, Oredo local government area, and Ikpoba Okha local government area in Benin City of Edo State of Nigeria and Stata 13.0 statistical tool is used for the analysis of data. The results show that headhunting recruitment strategy has a significant positive effect on employee retention strategy while selection practice has a significant positive effect on employee retention strategy.

Keywords: Employee retention strategy, headhunting recruitment strategy, recruitment, selection practices.

INTRODUCTION

The recruitment and selection process is one of the most important human resource management used by banks as it is the point of entry into the banks and also where the banks recruit talents that drive their goals and interest (Walker, 2001). The recruitment of candidates for a position in organizations through headhunting in human resource strategy is critical to the company's success (Deepakshi and Sheetal, 2014:2-3). Smith and Rupp (2004) cited in Deepakshi and Sheetal (2014:2-3), are of the view that the internet has drastically changed the face of recruitment. Employers have to market themselves by instituting a well-implemented e-recruitment program to find better quality candidates to occupy a sensitive position at lower-cost through the recruitment strategy of head-hunting (James and Matthew, 2012).

Headhunting is an external recruitment policy whereby outsourcing organizations have candidates employed elsewhere to suitably fill the business position (Dessler, 2014a). Therefore, the ability to retain talented employees is very keen to the banking industry as the business world is continuously changing into a global market where competition for rare talent is high (Akala, 2012). Meanwhile, the banks need to maximize their performance and sustain competition by adopting headhunting recruitment practices that contribute towards employee retention (Gazzawi and Accoumeh, 2014). Headhunting is a human resource management strategy employed by the management of the banking industry for the process of recruitment and selection of appropriate candidates for various vacant positions (Dessler, 2014b). James and Matthew (2012:19) stated that headhunting is a recruitment and selection process where the recruiters find the contact details of a specific candidate that has some specific skills so as to participate in the recruitment

process.

Tsuma (2017) claims that it is the responsibility of the human resource management in the banking industry to recruit and retain the employees through the avenue of headhunting recruitment policies and strategies that retain and increase on-the-job satisfaction for the employees (Das and Baruah, 2013). However, corporate organizations need talented employees with skills for maintaining the sustainable competitive advantage and yearn for career opportunities to develop and grow their level of competence (De Waal and Frijns, 2011:4-19). Employee retention is an obligation to stay with an existing business or corporate organizations on an ongoing basis (Pathak, (2011) cited in Shuku (2015). AL-Qudah et al. (2014) cited in Shuku (2015:1-66) add that retention is the ability to retain capable employees that an organization needs to keep for a longer period than its competitors. Retention strategies employed by banks help to increase job performance (Tsuma, 2017). Moreover, studies had demonstrated that there is a possibility of other factors that enhance retention strategies, beyond the use of headhunting recruitment process, affecting the level of retention strategies experienced by a firm (Trivedi and Muduli, 2015:23-37). Some studies have identified headhunting recruitment and selection practices to have a positive effect on retention strategies while others demonstrate that they have no effect on the levels of retention strategies (Karemu et al., 2014; Dessler, 2007). Based on this premise, the following research questions were raised to guide the study under consideration. Does headhunting recruitment strategy has any effect on employee retention in the banking industry? Does selection practices have any effect on employee retention in the banking industry? In addition, the study would bridge the gap in research by examining whether headhunting recruitment practices would influence employee retention strategies in the banking industry.

The broad objective of this study is to examine the effect of headhunting recruitment strategy on employee retention strategy in Nigeria banking industry. Specifically, the study seeks to:

(i) Examine the effect of headhunting recruitment strategy on employee retention in the banking industry.
(iii) Determine the effect of selection practices on employee retention in the banking industry.

THEORETICAL REVIEW

Formulation of research hypotheses

The hypotheses for the study under consideration were formulated in a null form:

H_{O1}: Headhunting recruitment strategy has no significant effect on employee retention strategy.

H_{O2}: Selection practice has no significant effect on employee retention strategy.

Employee retention strategy

Employee retention is the ability and capability of an organization to retain its recruited staff for a long period of time in organizations with good financial incentives (Samuel and Chipunza, 2009). According to Wijesiri, Paranagama, Sirirwardhana, Thilakarathna, Weerarathna, and Pathirana (2019:2), "employee retention is one of the most deliberated concepts in the area of human resource management and highlighting the reasons for employee turnover and implementing the necessary policies to retain employees in a competitive market environment". Retention is practices adopted in the corporate organization in order to encourage employees to remain for as specified in the contracts agreement (Das and Baruah, 2013). Eisenberger et al. (2002) are of the view that corporate organizations must enact its energy and time in retaining the quality employees that turn the prospect of the organization around for the positive outcome. Cropanzano et al. (2001:164-209), "argue that fair process leads to intellectual and emotional recognition in the mind of the employees thereby creating trust and commitment which build voluntary cooperation in strategy execution". According to Imran et al. (2015: 840-844), "employees are a true asset for any organization and every organization wants to get the maximum benefit from its resources". Akintayo (2010:1-8) is in the view that if employees are well satisfied and develop a high degree of satisfaction with their jobs, they are more likely to be committed to the organization than in the case of those who are not satisfied with their jobs due to the same factors. Zhou et al. (2009) added that compensation provides competitive base salary levels necessary to attract and retain talent and compensates for day-to-day responsibilities performed at a fully acceptable level and above.

Headhunting recruitment strategy

Headhunting is a recruitment strategy aimed at connecting employers to prospective employees (Rathling, 2012). Valkonen et al. (2013) argue that headhunting recruitment strategy is a recruitment model employed to attract the suitable and best candidate for available positions in any organization. Therefore, "recruitment based on the headhunting selection process is built on the premise of recruiting and retaining the right and a quality candidate that enhances the human resource needs of any firm positively (Newell, 2005). It is a process in which capable employees are located and incorporated into the workforce of organizations. The

highly competitive nature of today's business world has made it very necessary for businesses to seek the most cost-effective way to recruit new employees as well as for employees to seek employers (Rathling, 2012). Headhunting means the use of one or more strategies to relate intellectual human capital to the organizational vacancies (Sinha and Thaly, 2013). However, many recruitment agents have moved much of their recruitment process online so as to improve the speed by which candidates can be matched with live vacancies, and reduce the cost and time duration of these exercises (Suvankulov et al., 2012).

Selection practices

Dessler (2007) is of the opinion that the selection practice strategy is a process of matching the right people with the right vacant jobs placement. According to Subramaniam et al. (2011: 27-37), employee selection is the process of collecting and evaluating information about an individual in order to extend an offer of employment. Ombui et al. (2012: 19-64) lay credence to the common process adopted by most organizations when carrying out recruitment by relying on 'a behavior-based interview' which can help to some extent in predicting the subsequent output of employees better than, let say, 'situational interviews'. Selection practice involves defining vacancies, attracting applicants, assessing candidates and making decisions on the best candidates to fill positions (Beardwell and Wright, 2012). Recruitment and selection are veritable avenue employ by human resource managers and the entire company to hire the right people and retain them (Shuku, 2015:1). Shuku (2015:16) argues that selection strategy is about finding the best source, hiring the best talents and keeping the organization competitive on the job market and retains its best employees.

EMPIRICAL REVIEWS

Ombui et al. (2012) examined how recruitment and selection influence employee performance in research institutes in Kenya. The study population was drawn from all Government-owned research institutes formed under the Science and Technology Act. Cap 250. The target population was drawn from the research institutes that were within Nairobi county and its environs. The study adopted a stratified sampling technique while the sample size was 256 employees. Statistical package for social sciences (SPSS) was used to analyze the quantitative data. The results of the study revealed that the correlation between employee performance and recruitment and selection were highly significant. In a study carried out by Amaram (2005) in the United States of America showed that headhunting recruitment strategy is the most

effective channel of selection best and qualified candidates for vacant positions with high retention strategies. Similarly, Karemu et al. (2014) examined the factors influencing employee retention strategy. They found out that a significant relationship exists between employee e-recruitment, selection strategies, and employee retention. This implies that the presence of e-recruitment and selection practices would significantly lead to high employee retention. Mbugua et al. (2015: 87) on the relationship between strategic recruitment and employee retention showed that employee recruitment practices had a significant influence on employee retention through the use of associations, psychometric tests, website, targeting specific professionals and utilization of technologies. Shuku (2015:1) studied the effect of recruitment and selection practices on retention of teachers in international primary schools in Nairobi County.

The study made use of descriptive research design through the administration of structured questionnaires to 128 of 50 listed international primary schools in Nairobi County. The study also employs the Pearson Correlation and regression analysis in the analysis of data. It regression results showed that selection practice has a significant influence on the retention of teachers in international primary schools in Kenya. Midiwo et al. (2015) examined the influence of human resource information system on the performance of public Universities. They found out that e-recruitment strategy of candidate recruitment process had no significant effect on employee retention. Tsuma (2017) conducted empirical evidence on the influence of e-recruitment practices on employee retention in multinational corporations in Kenya. The study made use of descriptive survey research design through the distribution of questionnaires to the human resource managers of two-hundred and seventeen (217) multinational corporations based in Nairobi County.

The study employed descriptive statistics, correlation and multiple regression analysis in the analysis of data. The results from the multiple regression showed that e-recruitment strategy (corporate websites) had a significant influence on employee retention while e-recruitment strategy (commercial websites) had an insignificant influence on employee retention. Marwa (2018:20) carried out a study on strategic human resource management and public employee retention in National Bank of Egypt (NBE). The study used descriptive design and quantitative research in the collection of data. Selection practices had a significant impact on employee retention. Similarly, Wijesiri et al. (2019:2) studied the impact of human resource practices on employee retention. The study was conducted on the Business Process Outsourcing (BPO) sector in Sri Lanka. Primary data were collected through the distribution of a structured questionnaire to 237 executive level employees with the help of simple random sampling and analyzed

through a deductive approach and simple regression technique. It would be revealed from the regression results that a selection practice of human resources has a weak significant impact on employee retention.

The theory that likened to the study under consideration is discussed subsequently.

The Resource-Based View (RBV) theory

The Resource-Based View (RBV) theory stresses that the attainment and retention of employees in a workplace with the sustainable competitive advantage is a function of resources and capabilities of the business organizations (Penrose, 1959). The resource-based view is a common theory of integration of social media to recruitment, online recruitment whether public or private sector organizations. This means that the use of e-recruitment as a networked model bring about the attraction and retention of employee (Girard and Fallery, 2013; Wanjiku, 2015; Mbugua et al., 2015). The study was anchored on the resource-based view theory because the theory is relevant in the area of recruitment and retention strategy of the employee since it demonstrates how a firm derives sustainable competitive advantage through the exploitation of the scarce characteristics of individuals who are talented. However, human resources provide the necessary human and intelligent assets for firms to compete within the markets they operate in and gain an advantage over other firms through acquiring and retaining such talent (Wernerfelt, 1984).

Expectancy theory

Expectancy theory thrives on the idea that people prefer certain outcomes from their behaviour to others by a given level of performance. An employee who desires promotion will only achieve high performance if he/she believe his/her behaviour will lead to a promotion or else he/she will not exert effort (Vroom, 1964). An employee may be unwillingly to work hard if that person believes his effort will not lead to task accomplishment or there are no rewards for performance or the employee does not value the rewards will enhance the employee to leave the organizations. Expectancy is the probability that the effort put forth will lead to the desired performance. When the probability of some effort will not be rewarded, the employee will not be highly motivated to perform a certain task and bring about a high level of employee turnover (Vroom, 1964).

METHODOLOGY

Research design

The study used a descriptive survey research design. Zikmund (2003) is of the view that surveys provide a quick and accurate

means of accessing information on a population at a single point in time. Collins and Hussey (2003:66) see descriptive survey research design as a technique used to gather statistical information about attributes, attitudes or actions of a population by administering standardized questions to some, or all of its respondents. Moreover, descriptive surveys can be conducted with personal interviews, postal and self-administered questionnaires. The target population for this study was made up of employees of Zenith bank Plc operating as a money deposits bank in Egor local government area, Oredo local government area, and Ikpoba- Okha local government area in the Benin City of Edo State. Therefore, the population size for Zenith Bank in Benin City was approximately 220. The sample size of this study was calculated using the Yamane (1967) statistical formula which would be applied as (Yamane, 1967):

$$n = \frac{N}{1 + Ne^2}$$

Where n is the sample size, N is the population size, and e is the chance allowed for error or the level of significance. The sample size is computed as

$$n = \frac{N}{1 + Ne^2}.$$
$$= \frac{220}{1 + 220 (0.05)2}$$
$$= 220 / 1.55$$
$$N = 141.93$$

This value was approximated to the nearest round figure of 140. Consequently, a sample size of 140 was used.

Model specification and measurement of variables

Therefore, the model specification with an error term is stated below:

$$EMPR = \alpha + \beta_1 HDH + \beta_2 SPR + \varepsilon t$$

Where: EMPR = Employee retention strategy; HDH = Headhunting recruitment strategy; SPR = Selection practices; α = intercept and ε = Errors

The explanatory variables were measured by a research instrument. Therefore, the questionnaire instrument would be constructed using a five-point Likert scale (5 for strongly agreed to 1 for strongly disagreed). The reliability of the questionnaire was tested using Cronbach's Alpha. Tavakol and Dennick (2011) posit that reliability is the ability of an instrument to measure consistently. Reliability of an instrument is closely associated with its validity. The general agreed lower and acceptable limit for the Cronbach's alpha coefficient is 0.70. The reliability test conducted with help of the Cronbach's alpha showed that employee retention strategy has an internal consistency of 0.723, headhunting recruitment has an internal consistency of 0.784 and selection practice has an internal consistency of 0.786. This showed that the Cronbach's Alpha for the dependent variable and independent variables were more than 0.70. The variables were considered to be good for the measurement of internal consistency which is between 0 and 1.

Estimation technique

Multivariate regression technique was adopted to test the significant effect of the given variables for the study with the help of Stata 13.0 econometric software and Alpha test performed using Statistical Package for Social Sciences (SPSS), version 21.0.

Table 1. Multivariate regression result

Variable	Coefficient	Std. Error	t-test	p-value
C	0.38	0.14	0.82	0.418
HDH	0.46	0.14	3.28	0.002
SPR	0.37	0.46	2.54	0.014
R-Square	0.4785			
Root Mean square	0.6284			
F-Statistic	22.01			
Prob (F-Statistic)	0.00			

RESULTS AND DISCUSSION

A total of one-hundred and forty (140) questionnaires were given out to respondents and one-hundred and ten (110) questionnaires were duly returned and usable, and subsequently analyzed. The response rate was about 79%. In order to test the individual significance of the variables, the multivariate regression technique was adopted and the result is presented in Table 1. As shown in the table, the coefficient of determination (R^2) value of 0.0.4785 that is about 48% of the systematic variations in the dependent was jointly explained by independent variables. The root mean square of 0.6284 means that the model overall is good for statistical prediction at about 63%. The F-statistic value of 22.01 and its associated value of 0.00 revealed that there was a significant linear relationship between the variables. The empirical result showed that headhunting recruitment strategy (HDH) has a significant positive effect on employee retention strategy at 1% level of significance. This means that headhunting recruitment strategy adopted by money deposit in bank would significantly lead to a high level of employee retention. The significant effect of headhunting recruitment strategy was because the variable has a p-value < 0.05. The result was consistent with the findings of Amaram (2005) that headhunting recruitment strategy is the most effective channel of selection for best and qualified candidates for vacant positions with high retention strategies. The study, therefore, suggested that the hypothesis that headhunting recruitment strategy has no significant effect on employee retention strategy should be rejected. The result also revealed that selection practices (SPR) have a significant positive effect on employee retention strategy at 1% level of significance. This implies that selection practice employed by money deposit banks bring about the level of employee retention. The significant effect of selection practices was because the variable has a p-value < 0.05. The result was consistent with the findings of Mbugua et al. (2015) and Shuku (2015) that selection practice has a significant influence on employee retention strategy. The study of Wijesiri et al. (2019) also supported the results that selection practice of human resources has a weak significant impact on employee retention. The study of

Marwa (2018) also affirmed that results selection practices had a significant impact on employee retention. The study, therefore, suggested that the hypothesis should be rejected that selection practice has no significant effect on employee retention strategy.

Conclusion

Employee retention is seen as one of the most deliberated concepts in the area of human resource management and putting proactive strategy and implementing the necessary policies to retain employees in a competitive market environment. The recruitment and selection process is one of the most important human resource management used by banks. Headhunting is a human resource management strategy employed by the management of the banking industry for the process of recruitment and selection of appropriate candidates for various vacant positions. Headhunting is a recruitment and selection process where the recruiters find the contact details of a specific candidate that has some specific skills so as to participate in the recruitment process. Headhunting is an external recruitment policy whereby outsourcing organizations have to suitable candidates employed elsewhere to fill the business position. In other words, employee retention is a practice needed to be adopted in the corporate organization in order to encourage employees to remain for as specified in the contracts agreement. The results showed that headhunting recruitment strategy has a significant positive effect on employee retention strategy at 1% level of significance and selection practice has a significant positive effect on employee retention strategy at 1% level of significance. Based on the above empirical findings and conclusions, the following recommendations are put forward. Firstly, headhunting recruitment strategy and selection practices should be embraced by human resource managers in the banking industry because it is keen on employee retention. Secondly, the management of the banking industry should see selection practice as a human resource recruitment policy that brings about higher employee retention. Thirdly, policies on employee recognition and promotion should be adopted by human

resource managers of bank with respect to hard work, honesty, and integrity for a higher level of employee retention. Fourthly, the study suggested that further empirical study should be carried out on the areas of headhunting recruitment and employee retention by extending the scope to other non- financial quoted companies in Nigeria.

Limitation of the study

Some of the limitations of the study are limited sample size and poor responses from the sampled respondents: The sample size of the study was limited due to exclusion of customers and employees from other money deposit banks. Also, the use of research instrument (questionnaire) is usually prone to the unwillingness of the respondents to objectivity fill and answers the questions as a result of a busy schedule.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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