Towards a Framework for Measuring End-User Intension Towards the GIG Economy System: A Case Study of Uber

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ABSTRACT

Information systems has continually experienced issues with acceptance and utilization of technologies. The anticipated benefits of the deployment of an innovation cannot be ascertained if the intended population do not adopt it. The gradual rise of the gig economy has captivated the attention of scholars to dig into this new concept of labor exchange and the accruable benefits. The gig economy also known as the "On-demand economy, sharing economy, platform economy, and digital economy" has known to have increase the work force through the various on-demand jobs rendered on the platform, which has increase end-user acquire goods and services from providers through apps on smartphones and web application. The platform has virtually come to replace how they would go through the trouble of requesting for services and as such found the use of the platform to be a substitute to how they request for services. It was however established from literature that very limited research has been conducted on the gig economy and facilitating factors for the gig workers and organization were the focus of existing research thus paying little or no attention to the end-users. This paper proposed a study that seeks to understand the nature of gig economy and the factors that drives end users intention to maximize and utilize the gig economy from a developing country context (Nigeria).

Keywords: Gig, Economy, Ride hailing services, Nigeria, SEM, Subscribers, consumers, disruption and Market.

1. INTRODUCTION

The word innovation is now a trending word in society today as everyone wants to pioneer an idea. Africa which is categorized as a developing society has recorded tremendous growth with regards to the innovative services they are coming with through combining mobile phone and the web (Osiakwan, 2016). The significate improvement in technology which could also be termed digital revolution has brought about a dramatic shift in the rate of employment (Pompa, 2015) which has given rise to in the level of on-demand labour platform where worker does no longer have to get contract on the long term by a company but are recruited by the gigs to provide services to end user for defined time with no physical connection with the employer (Friedman, 2014). These companies who provide such services are breaking barriers and building bridges in the labor market and has turned around the rate of

unemployment (Pompa, 2015).

Therefore gig can be defined as a digitally enabled environment where workers are more into freelance work than the traditional 9-5 system (Brown, 2019). The gigs economy can be classified into two, (i) crowd works which are defined as the kind of jobs that are gotten through websites. This category of the gigs economy hires workers to do low-level jobs such as data entry and (ii) work on demand which is defined as the kind of job that is gotten through the aid of a mobile application but is performed through traditional means example of this kind of jobs are transportation, cleaning services etc. (Smith & Leberstein, 2015). The gigs economy won't be in existence without the internet. The swift growth of the internet and the innovation of smart computing and mobile devices has improved its mood of operation. The internet has influenced the mood of operation of the gigs system as it makes it possible for employees to remotely work according to the work ethics of the organization (Friedman, 2014)

Table 1: Major Companies in the On-Demand Economy

Name	Field	Size of Workforce	Operating Areas
Uber	Transportation	160,000[i]	International
Lyft	Transportation	50,000[ii]	U.S.
Sidecar	Transportation	6000[iii]	Major U.S. Cities
Handy	Home Services	5000[iv]	U.S.
Taskrabbit	Home Services	30,000[v]	International
Care.com	Home Services	6,600,000[vi]	International
Postmates	Delivery	10,000[vii]	U.S.
Amazon Mechanical Turk	Crowdwork	500,000[viii]	International
Crowdflower	Crowdwork	5,000,000[ix]	International
Crowdsource	Crowdwork	8,000,000[x]	International
Clickworker	Crowdwork	700,000[xi]	International

Source: (Smith & Leberstein, 2015)

As seen in the figure above, the gig system has been well established in developed countries like the U.S. Prior studies focused more on these developed countries leaving the developing countries.

2. RELATED WORKS

Overview of the gig economy

According to (Brinkley, 2017) the concept of the digital market is making a great wave in the labor market in the world. The concept behind the ideology of the digital market is drastically changing the way the labor market operates. In the gig economy, the workers who are willing to work in the system enter a formal drafted agreement with the on-demand companies to render services to them. Flagship on-demand Company is a company who has drawn the attention of the media due to their success in the gig economy system.

Here, Prospective client who is in the need of the service offered by the on-demand companies is contacted and a request is made via an online platform through the internet. The gig worker who provides direct service to the client based on the request through the on-demand company is paid by the client after the job must have been completed. There is no agreed definition of the gigs economy. (Brinkley, 2017; Kim, Park, & Lee, 2018a). Different researchers have defined the gigs economy based on the way they view the system.

Table 2.1: Author Definitions of the gig Economy

Author	Definition
Donovan, Bradley, & Shimabukuru (2016)	The process of matching the service provider and the consumer on the gig.
Brinkley (2017)	Is an economy sector consisting of casual workers who work on a series of small jobs. These jobs are arranged via website or app.
Wood, Graham, Lehdonvirta, & Hjorth (2019)	People who use an application to sell their labor.
(Kim et al., 2018a)	Defined the gig system as the provision of offline services through an online platform
(Baranowski, 2018; Brown, 2019)	Is a digitally enabled environment where workers are more into freelance work than the traditional 9-5 system

Table 2.2 A summary of the literature on the gigs economy

Author	Focus	Theory/Method	Research Method	Gap identified
(Brabham, 2008)	Overview of crowdsourcing and what it entails. (its use and potential)	No theory/model	Conceptual paper	A study of crowdsourcing that has failed and succeeds in the past
(Friedman, 2014)	The policies that could help workers in the gig system	No Theory	Conceptual paper	It looks at the social policy because of the shift of economic risk to the worker
(Pompa, 2015)	The global changing workforce and the analysis of the employed and unemployed.	No Theory	Conceptual paper	How technological innovation can bridge the gap of the high rate of unemployment.
(Barnes, Green, & Hoyos, 2015)	Investigate the individual factor and situation that leads to employability in crowdsourcing platforms	Employability framework	Qualitative	Other factors relating to an individual such as the macro and local context needs to be investigated to better understand individual perception on crowdsourcing
(Smith & Leberstein, 2015)	Ensuring workplace standard and worker security in the on-demand economy	No Theory	Conceptual paper	The right of an employer who is engaged in gigs economy and the obligations to the government.

Author	Focus	Theory/Method	Research Method	Gap identified
(Barrenechea, 2016)	A study on how the nature of crowd works affects the development of the crowd works system	The Crowdrouter Framework	Systems development approach	Future work needs to investigate how the Crowdrouter influences the design of the system, and how they address the concerns of the crowd.
(Fiona & Alamyar, 2017)	Evaluating the rules governing the regulatory environment to enhance decent work with the gig economy	The triangle relationship of the gig economy	Qualitative	Interview: Uber drivers were interviewed in large number form other cities. This created a large data set which could be used for a comparative study
(Graham et al., 2017)	Gigs works in California	Conceptual model	Qualitative/ Quantitative Method	To understand how workers use the gig economy whether as the main job or in combination with their regular jobs
(Joelsson, Pietrogiovanni, & Inghammar, 2017)	It provides an overview of the gig economy	No model/theory	Conceptual paper	To further investigate how the concept of employment and ways of performing individual are considered employees.
(Brinkley, 2017)	Investigating the cause of the labor market disruption	No Theory	Conceptual paper	The challenges of the gig system type of employment
(Healy, Nicholson, Pekarek, & Healy, 2017)	To understand why the gig economy should be taken seriously	No Theory	Qualitative method	An academic study of the gig economy is just beginning. An academic approach towards the gig economy is necessary
(Oecd, Ribarsky, Bureau, & Analysis, 2018)	It focuses on creating awareness of the benefit of digital welfare to the consumer economy	Cross-border intermediated	Conceptual paper	Categorizations and aggregations
(Wood et al., 2019)	The evaluation of job quality of work in the remote gig economy	No Theory	Qualitative method	Identifying the different kinds of gigs: local and remote

3. CONCEPTUAL APPROACH TO GIG ECONOMY

The Figure above shows that the gig economy has been studied in various context across the world. Having studied this literature this section will go further to shed more light on the frameworks used in this literatures above. The reviewed articles in the fig above went further to use various means to discuss the gig economy using various approaches. Fiona & Alamyar (2017) used the triangle relationship of the gig economy to explain the relationship between the three major entities in the gig economy which are the End-user (platform users such as the uber riders), the worker (The uber drivers) and the intermediary (platform base company such as uber).

Barnes et al., (2015) in his research used the employability framework to investigate the individual factor and situation that leads to employability in crowdsourcing platforms and it was able to come up with five factors that encroach ability to be employed which are the individual factor, the circumstance the individual finds his/herself, the organization practices do's and don'ts, local contextual factor, and the macro factor. Barrenechea (2016) used the crowdrouter framework to analyze ways to build the crowd work system. (Oecd et al., 2018) used the Cross-border intermediated which is similar to the triangle approach proposed by (Stewart & Stanford 2017, pp. 426 as cited in Fiona & Alamyar, 2017) as discussed above.

4. RESEARCH GAPS

The literature reviewed has pointed to some gaps that needs to be considered for further research.

I. According to Drahokoupil & Fabo (2016) as cited in Kim et al. (2018) noticed that more energy is put on the price/marketing and regulatory issues without having a proper understanding of the platform has left the study of the system at the infant stage in developing countries.

II. Osiakwan (2016) in his book "**The KINGS of Africa's Digital Economy**" described how Africa is unleashing innovative idea through the combination of mobile and web technology. Hence, it won't be out of context to investigate the end-users adoption of on-demand labor as a technology diffusion research

III. Ononiwu, Brown, & Carlsson (2018) emphasized on the need for an information system research to have a theoretical background. However, having reviewed literature for this study, it was noticed that studies carried out on the gig economy lacked theoretical underpinning (Brabham, 2008; Friedman, 2014; Healy et al., 2017; Joelsson et al., 2017; Pompa, 2015; Smith & Leberstein, 2015) which prompted this research to test/back the gig economy with theories. It is with this reason that this study intends to use the Unified Theory of Acceptance and Use of Technology (UTAUT) framework and the Innovation diffusion theory (IDT) for this study.

4.1 Problem Statement

The gig economy is well known for its level of flexibility, in as much as workers do not have to spend the whole day (9-5 system) at work (Baranowski, 2018). The urge of wanting to be independent is driving the labor force into the gig system as it has a perceived sense of independence in the system (Friedman, 2014) . The gig economy otherwise known as platform economy has been forecasted to massively grow in the next decade (Brinkley, 2017). The intermediate companies have continued to coin out on-the-demand jobs which are facilitated by technology(Fiona & Alamyar, 2017).

Technology has impacted the globe through the creation of a fast-paced business environment. This platform has not only aid to matching job seeker with the employee, but it has as well matched end-users/consumer with workers who are available to undertake the specific task (Mckinsey, 2015). Developed countries like the united states have implemented the bill to protect the right of this freelancers because of the massive influx of people into the system called the freelancer isn't free Act (FIFA) (Baranowski, 2018). Prior studies done on freelancers showed that 34% of workers in the states are engaged in the platform (Jane Dokko, Megan Mumford, 2015)

According to (Kim, Park, & Lee, 2018b) pointed out the need to examine issues where end-users do not adopt on-demand-services. However, in answer to the call by (Kim et al., 2018b), This study will examine the intention of end-users to adopt the platform and using the recommendation of (Ononiwu et al., 2018) we will back this study with a theory. This study will use the UTAUT model and the innovation diffusion theory (IDT) as a theoretical lens

4.2 Research Question
The research question that emanates from the foregoing are:
1. What mechanisms drive end-users intentions to maximise/utilise the gigs system
2. At what rates is the GIG economy being adopted
3. What theories can assist to better understand the GIG economy

5. RESEARCH AIM

The aim of this research is to investigate and measure the factors that can aid end-user's utilization of the gig system using UBER as a case study

5.1 Objectives
To achieve the aim above, the following specific objectives will be pursued:

1. Using primary and secondary sources of data and a research instrument, understudy the state of the art of the GIG economy in Nigeria using Uber as a Case Study
2. Establish theoretical frameworks and IS philosophical underpinnings that can assist to better understand the factors that supports or militate the diffusion of the Gig economy.
3. Analyze the data obtained in (1) above using structural equation modelling and other statistical tools as a way of measuring user intentions towards the adoption of the gig economy.

6. PHILOSOPHICAL UNDERPINNINGS

The positivist, interpretivist and critical research are main paradigm (Orlikowski & Baroudi, 1991). The positivist paradigm is a kind of school of thought that embraces objective genuineness which is in a single form and it's solid. Positivist are known for approaching a research through a deductive approach. The term deductive approach starts with the worldwide/general believe of a phenomenon then narrows down to the situation in particular. Deductive approach poses hypothesis and test them. The testing of the hypothesis will give rise to the confirmation of the principle viewed by the researcher. Despite the allegation on the positivist philosophical assumption it is hard to avoid (Schrag, 1992). A descriptive study will be done which is influenced by the positivist paradigm. This study will use statistical proposition and quantitative technique in the quest to know the nature of connection between the independent and dependent variable (Lee, Hubona, & Lee, 2015)

Interpretivist: Is another school of thought which believes in the presence of multiple reality (Walsham, 1995). Am in interpretivist doesn't just relies on the actions exhibited, he tries to understand the motive that drives the action (Walsham, 2006). Interpretivist uses an inductive approach unlike the positivist which uses a deductive approach to investigate its study. Critical research: is another school of thought in research which strives to critique the status quo, through exposure of the believes in the social system there by transforming the social condition (Mingers, 2013)

6. RESEARCH FRAMEWORK

The framework considered fit for the study of the gig economy is the Unified Theory of Acceptance and Use of Technology (UTAUT) framework proposed by (Venkatesh, Morris, Davis, & Davis, 2003) and Diffusion of innovation (DOI) (Rogers, 1995)

6.1 The justification for using UTAUT framework

The innovation of new technology has continued to grow at a very fast rate in the world today (Osiakwan, 2016). It has become very paramount for top management to explore and investigate the necessary factor that can boost the use and utilization of the new technology (Williams et al., 2015). Hence the UTAUT framework proposed by (Venkatesh et al., 2003) will be used as a theoretical lens to investigate the users acceptance of the uber system platform by adopters, as it explains 70% of the factors that lead to the acceptance of a technology unlike other model that explains just 40% of the acceptance behavior (Fong, 2014). A summary of other models that have been proposed by other authors are shown below

Table 6.1: Summary of Models Proposed by other Authors

Model	Determinants of Behavior
Theory of Reasoned Action (TRA)	Attitudes towards the behavior+ social influences
Theory of Planned Behavior (TPB)	Attitude towards behavior+ subject norms + perceived behavioral control (PBC)
Decomposed Theory of planned Behavior (DTPB)	Attitude towards behavior (compatibility, complexity, and relative advantage)+ subject norms + PBC (Efficiency, and facilitating conditions)
Technology Acceptance Model (TAM)	Perceived Usefulness +Perceived Ease Of Use
Diffusion of Innovations Theory (DOI)	Innovation attributes + innovators' characteristics
The Social Cognitive Theory (SCT)	Self-Efficacy + outcome expectations + affect
The Motivational Model (MM)	Intrinsic motivation (enjoyment, and fun) + extrinsic motivation (perceived usefulness)
The Model of PC Utilization (MPCU)	Beliefs + affect+ social norms + perceived consequences + habit+ facilitating conditions
Unified Theory of Acceptance and Use of Technology (UTAUT)	Effort expectancy + performance expectancy+ social influence+ facilitating condition

Source: Determinant of behavior in acceptance model (Dimitrova & Chen, 2006 as cited in Fong, 2014)

The effort expectancy + Performance Expectancy + social influence + facility condition are the constructs in the UTAUT framework. The UTAUT has a moderating factor that leads to behavioral intention and use behavior. These factors are gender, age, experience and voluntariness of use.
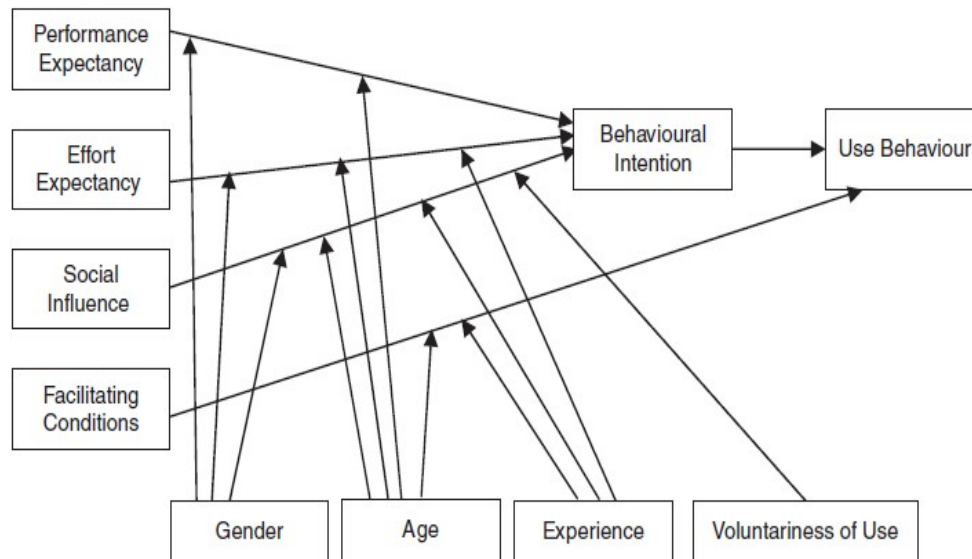
Fig. 6.1: The UTUAT Constructs
Source: Venkatesh et al (2003)

These constructs are explained below

- ❖ **Performance Expectancy**: Measures the improvement through the uses of the system which affect user's satisfaction which in turn affect the continued use of the system
- ❖ **Effort expectancy:** This construct measures the degree of ease associated with the use of the system
- ❖ **Social influence:** The extent of which an individual perceive other believes he/she should use the system
- ❖ **Facilitating Condition:** The extent to which an individual believes technical and organizational support exists to support operations.

Moderators
- ❖ **Gender:** Male or Female and it influence the use of the system
- ❖ **Age:** Age by range and how it influences the adoption of a system
- ❖ **Experience:** Years of working experience an individual use to the system easily
- ❖ **Voluntariness of use:** willingness to freely use the system

6.2 The justification for using Diffusion of innovation theory (DOI)
Diffusion innovation theory is a theory that is widely accepted and used in investigation the behavioural intention towards the acceptance and implementation of a technology (Fong, 2014)."*Diffusion of innovations is a theory that seeks to explain how, why, and at what rate new ideas and technology spread*"(Rogers, 1995). Roger went further to identity the major five attribute of a newly innovated product that could lead to high acceptance. (i)Relative advantage which is understood to be how individual perceive the new innovated product to be better-off that the exciting on been used. (ii)Complexity which is understood to be how individual perceive the new innovated product to be difficult or easy (iii) Compatibility which is understood to be how the new innovated product is in accordance with the user beliefs and value. (iv) Observability which is understood to be how the new innovated product is visibility among other social system. (v) Trial ability which is understood to be how the new innovated product could be tried out by user before its actual usage
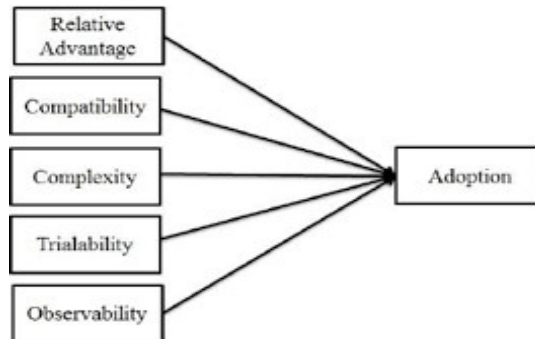
Fig 6.2   Diffusion of innovation model
Source: Rogers, (1995)

6.3 Conceptual framework for the study

The UTAUT model and the diffusion of innovation theory (DOI) will be conceptualize to suit this study. Based on the limitation of the UTAUT model and the diffusion of innovation, the model has been crossed referenced and matched to best suit this study.
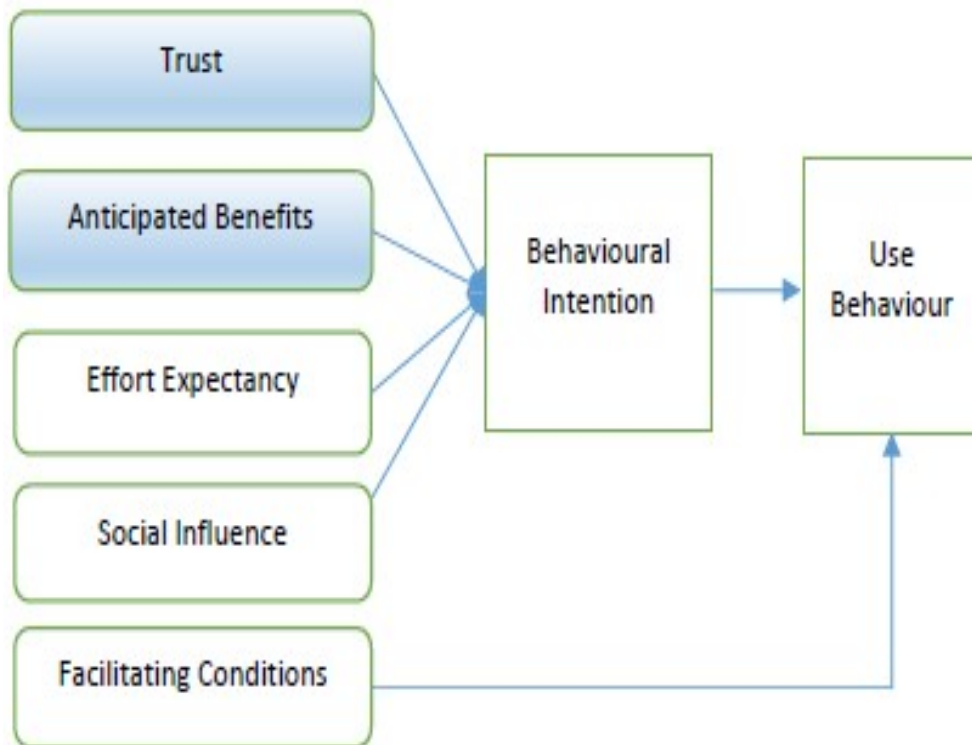

Fig. 6.3: Proposed Research Model
Source: Authors' construct

Trust

With the growing innovation in African through the combination of mobile and web services (Osiakwan, 2016), end-user who wish to use the services of the on-demand labor do so through an online medium. This interaction on the platform requires sending and receiving personal information and may sometimes require that payment is done through this medium (Loke, 2008). Hence having trust in the specialty of work provided and in the system is very important to motivate end users of the platform to keep patronizing their services. This construct is very critical as it affects the duration of consumer and business relationship (Kim et al., 2018a).

The following hypothesis will guide the construct of trust perception

H_1. *Perceive trust on the platform will positively impact on the intention to use the platform*

Anticipated Benefit

This relates to the user's perception that the use of the platform would be beneficial and would be of value to the end user/customer. This construct intends to investigate the perception of the users towards the use of the platform in term of the quality of facilitating, saving time, money and effort and the prompt service rendering

The following hypothesis will guide the construct of anticipated benefit perception

H_2: *Perceived anticipated benefit to be provided by the platform will positively impact the Intention to use the system*

Effort Expectancy

This relates to the user's perception that the platform is easy to use. This construct will investigate the ease of use of the platform as well as the ease of learning how the platform can be operated. The construct is derived from the Technology acceptance model which inherit some considerable amount of factor such as the perceived ease of use, which defines the level of effort desired to use the system. The PEU measure the level to which using the platform is perceived as not difficult to use. (Davis, 1989)

The following hypothesis will guide the construct of Effort Expectancy perception

H_3: *Effort Expectancy, through Perceived Ease of Use (PEOU) will have positive impact on users' intention to use the platform*

Social Influence

This relates to the level to which the user perceives that others who are important to the user believe that the user should use the platform. This construct will investigate by looking at how peers can possibly affect users to use the platform. For example, In the case of three friends. If two use an application such as the uber to a ride around, there is a high probability that the third person will be influenced to using the application because his other two friends are using the application. Thus, social influence can be said to **"The extent of which an individual perceives other believes he/she should use the system"** (Fong, 2014)

The following hypothesis will guide the construct of social influence perception

H_4: *Social influence will have positive impact on the user's intention to use the platform*

Facilitating Condition
This relate to the level of extent to which an individual believes technical and organizational support is available to support operations or can be said to be the perceived believe that there is adequate condition for effective and smooth running of the platform which includes the readiness of the organization and the availability of adequate infrastructure as well as control and compliance in place. This construct will investigate the user's intention having adequate knowledge that there is enough resource to run the platform.

The following hypothesis will guide the construct of facilitating condition perception

H_5: Facilitating conditions will have positive impact on users to use the platform

Behavioral Intention
The framework used for this study UTAUT model considers behavioral intention dependent construct for the framework. This relates to individual possibility intention towards the behavior being considered (Venkatesh et al., 2003). This will investigate the intention, prediction and possible plan to use the platform

The following hypothesis will guide the construct of Behavioural intention perception

H_6: Behavioural intention will have positive impact on the actual use of the platform

Use Behaviour:
This relates to the actual behavior towards the use of the platform. The actual use of the system is influenced by the behavioral intention.

7. METHODOLOGY/ RESEARCH DESIGN

This study seeks to adopt the positivist paradigms as it best suits this study been that it intends to seek out fact from the social phenomenon of being value free. (Ononiwu, 2015). The approach that have been found suitable for the positivist paradigms is the quantitative and deductive approach (Riege, 2003). This study will adopt a positivist research approach and a quantitative method. An in-depth review of theoretical frameworks, conceptual frameworks and relevant IS theories as it applies to the research will be done.

Online survey will be used to issue out questionnaires to the populace who have implemented the gig system in Nigeria which in the context we will be using Abuja which is one of the few cities to have implemented the system. The response will be analyzed using a Structural Equation Modelling and the Statistical Package for Social Sciences (SPSS) software. The analysis will be carried out to find answer to the research questions and create knowledge discovery relevant to the research from data collected.

8. CONCLUDING REMARKS

The gig economy is known to have increase the work force through the various on-demand jobs rendered on the platform, which has increase end-user acquire goods and services from providers through apps on smartphones and web application. The platform has virtually come to replace how they would go through the trouble of requesting for services and as such found the use of the platform to be a substitute to how they request for services. It was however established from literature that very limited research has been conducted on the gig economy and facilitating factors for the gig workers and organization were the focus of existing research thus paying little or no attention to the end-users. The thrust of this paper is to set an agenda for a research that seeks to understand the nature of gig economy and the factors that drives end users intention to maximize and utilize the gig economy from a developing country context (Nigeria).

Future work will address the aims and objectives using the proposed framework and research designs

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