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The Bridging of the Technological Divide by the Informal Sector: A South African Case Study

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Abstract

The paper contains a report on survey research that was conducted in informal businesses during hours of operation in Gauteng, the biggest of the nine South African provinces. The purpose of the study was to ascertain whether the owners or employees in the informal sector succeed to bridge the technological divide by making use of computer and/or digital technologies in the running of these businesses. Special emphasis was placed on Internet access as well as software usage.

Keywords: technological divide, informal sector

Introduction

The digital divide is defined by Mack (2001:xiii) as the "political and sociological catch phrase to describe the growing disparity between the "haves" and the "have-nots" in the current digital revolution." This definition places the emphasis on access and the question of how the users get access to the technology of his/her choice.

This definition raises the question whether the definition of technology should only apply to digital technologies and whether the technological divide does not encompass access to basic computing facilities and software packages. Johnson (2006) referred to a statement by Perelman who pointed out that: "(t)he less developed countries of Eastern Europe and Asia although have computers at work and home yet show much smaller results (60% and 10% correspondingly). As for the Underdeveloped countries I would like to note that the computerization of such countries is extremely low. Less than 10% of businesses and 1% of homes have computers in the underdeveloped countries, with the absolute absence of one's own technology or productive capacity."

With South Africa probably falling between these two parameters, the researcher decided for the purpose of this study to broaden the definition of technology to make provision for basic computing proficiencies as well as digital skills in the questionnaire.

Since the researcher focused the study on businesses in the informal sector, it is important that this informal segment of the market is defined. Mannak (2009) pointed the following out:

The informal sector - or second economy - refers to labour activities that fall outside the formal economy and which are mostly not regulated by government. Examples of informal employment are hawking, domestic work and small-scale farming. In South Africa

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and elsewhere, industries such as clothing also have a large informal component.

''In many African countries, a considerable part of the labour force works in the informal sector,'' says Richard Walther from the French Development Agency (AFD). ''In South Africa, the informal sector accounts for 31 percent of all jobs. In Benin, 95 percent of the labour force works in the informal sector.''

The second economy is therefore an important contributor to countries' gross domestic product (GDP). ''In South Africa, activities within this sector generate 30 percent of the GDP,'' Walther reveals (Mannak, 2009)

According to the National Small Business Act of 1996 small, medium and micro enterprises SMMEs in the South African context are classified into five categories: a) survivalist

enterprises; b) micro enterprises; c) very small enterprises; d) small enterprises; and e) medium enterprises. The survivalist enterprise is generally seen as providing an income below the poverty line. Table 1 contains the statutory definitions of the other segments of this classification.

Table 1: Categories of SMMEs

Size of enterprise	Number of employees	Annual turnover	Gross assets
Medium	Fewer than 100-200, depending on industry	Under R4m to R50m, depending on industry	Under R2m to R18m, depending on industry
Small	Fewer than 50	Less than R2m to R25m, depending on industry	Less than R2m to R4.5m, depending on industry
Very Small	Fewer than 10 to 20, depending on industry	Less than R 200.000 to R500, 000, depending on industry	Less than R150, 000 to R500,000, depending on Industry.
Micro	Fewer than 5	Less than R150,000	Less than R150,00

Ligthelm (2005:1) pointed out that "South African cities are characterised by extensive informal sector markets concentrated largely at transport interchanges where trains, taxis and/or buses assemble for commuter movement."

In this paper the researcher reports on a survey that was conducted amongst informal businesses in one of South Africa's economically most active regions. The researcher obtained 73 questionnaires from a wide array of business types. All the businesses that were included in the sample all fall within the very small, micro and survivalist categories.

Objectives

The objective of the study was to investigate the usage of computing and internet technologies in the informal business sector in South Africa in order to ascertain the impact of the digital divide.

The location of the business, the number of employees, the use of computers (desktop as well as laptop) and mobile phones, as well as the use of software and e-mail services formed part of the aspects that were addressed in the questionnaire. Respondents were also given the opportunity to indicate in which of the business functions the various technologies are applied.

Methodology

In order to collect the acquired information, the researcher developed a questionnaire that he used in the survey. No other data collection tools were implemented. The researcher and one of the fieldworkers did a number of inspections in loci in order to ascertain the type of businesses that could be accommodated in the sample. Since the bridging of the digital divide formed an important part of the study, the researcher decided to include questions on the types of technology and software that were used in the businesses.

The researcher opted for a sample of convenience since xenophobic violence in the area made it unsafe for fieldworkers to implement a random sample.

Three fieldworkers were trained to administer the questionnaire in accordance with the ethical rules of Monash University. They also received instructions on the selection of interviewees.

The sample was drawn in the central and western parts of Gauteng, the largest and economically most active of South Africa's nine provinces. Home industries, flea markets and pavement concerns and kiosks as well as street hawkers were targeted.

Table 1 contains a list of industries that feature in the sample.

Results

Municipal distribution of the sample

All the questionnaires were administered in the northern, central and western parts of Gautgeng province. The fieldwork was conducted at seven different types of premises. Thirteen regional zones spread over 6 municipal areas were included in the sample.

Table 2: Industries in the sample

INDUSTRY	NUMBER	PERCENTAGE
Food and drink	13	18
Clothing	11	15
Collectibles	8	11
Communicatio n	6	8.5
Repairs	6	8.5
Hair and Beauty	5	7
Public Transport (Taxi's)	3	4
Books	3	4
Clothing and Gifts	3	4
Industrial	3	4
Jewellery	2	3
Interior decoration	2	3
Services	2	3
Toys	2	3
Clothing and jewellery	1	1
Crafts (beads)	1	1
Electronic	1	1
General dealer (spaza)	1	1

A table of the number of questionnaires conducted in each area depicts the geographic representativeness of the sample.

Table 3: Municipal Distribution of the Sample

AREA	NO. OF QUESTIONNAIRES	% OF SAMPLE
Roodepoort	35	48
Pretoria (Tshwane)	18	25
Midrand	7	9.5
Krugersdorp	7	9.5
Johannesburg Central	3	4
Soweto	3	4

Area distribution of the sample

The area distribution of the sample is depicted in the following table. The areas in which the samples were collected vary from affluent suburbs with upmarket malls to pavements in disadvantaged areas.

Type distribution of the premises in the sample

The researcher incorporated seven different types of premises in the sample. This type distribution is depicted in Table 5.

Table 4: Area Distribution of The Sample In Gauteng province

AREA	NO. OF QUESTIONNAIRES	% OF SAMPLE
Roodepoort	18	24.5
Hatfield Pretoria (Flea Market)	8	11
Gezina Pretoria (Flea Market)	7	9.5
Kagiso	7	9.5
Honeydew	7	9.5
Zandspruit	5	7
Ivory Park	5	7
Randburg	3	4
Waverley	3	4
Meadowlands Soweto	3	4
Park station	3	4
Ruimsig	2	3
Tembisa	2	3

Table 5: Type Distribution of the Premises in the Sample

TYPE OF PREMISES	Number	% OF QUESTION-NAIRES
Flea Market stall	32	43.5
Pavement	19	26
Taxi rank	8	11
Home industry	4	5.5
Outside mall	4	5.5
Kiosk	4	5.5
Train station	2	3

Number of employees

The number of employees employed by each of the small businesses that were incorporated in the study varied did not exceed eleven. Ten of the owners worked on their own. Table 6 depicts the employment pattern that was discovered with data analysis.

Table 6: Number of employees per business

NUMBER OF EMPLOYEES	NUMBER OF BUSINESSES	PERCENTAGE OF BUSINESSES
1	10	14
2	32	44
3	19	26
4	4	6
5	3	4
6	3	4
11	1	1
12	1	1

Status of the respondent

In the next question the researcher asked the respondent about his position in the business. The following table depicts the reported results:

Table 7: Status of the respondent

STATUS OF RESPONDENT	NUMBER OF RESPONDENTS	% OF RESPON-DENTS
Owner	44	60
Manager	17	23
Employee	12	17

Academic qualifications of respondents

The researcher included a question on the qualifications of the respondent. The responses showed that one respondent had a PhD. The researcher personally interviewed him. He was trading in books at a flea market and proved not only to be very knowledgeable about market trends in his field but also technologically well-connected.

None of the respondents made mention of any technical qualifications. These responses indicated a pattern of limited career options.

Table 8: Academic qualifications of the respondent

QUALIFICATION	NUMBER	PERCENTAGE
Lower than grade 10	18	24.5
Grade 10,11	2	3
Grade 12	45	61.5
Degreed	7	10
PhD	1	1

Access to technology

The researcher included a question on access to technology. The respondent answered on behalf of the business.

Table 9: Access to technology

Mode	Number of respondents	% Of Respondents
Desk top computer	28	38
Laptop computer	27	37
Mobile phone	61	84
Internet	30	41

Primary reason for usage

The researcher compiled a cafeteria question to establish the business functions for which the equipment and technologies are used. The following usage was reported.

Table 10: Business functions for which the technologies are used

Type	Number of respondents	% of Respondents
Marketing	19	26
Ordering	20	27
Tenders	1	1
Legal activities	1	1
Research	6	8
Bookkeeping	11	15
Customer service	1	1

Internet usage

Of the 30 respondents who enjoy Internet access, 22 reported that they use it for business purposes. The respondents reported the following data regarding frequency of usage.

Table 11: Frequency of Internet usage

Frequency	Number of respon-dents	Percentage with Internet access	Percentage of total respon-dents
Daily	14	47	19
Weekly	13	43	18
Monthly	3	10	4

Points of access

The respondents reported that they gained Internet access at the following venues. They were allowed to select more than one alternative.

Table 12: Premises where Internet access takes place

Premises	Number Of Respondents	% with access	% of total respondents
Business	10	33	14
Home	14	47	19
Internet café/kiosk	11	37	15
Wireless (laptop)	3	10	4
Day job	2	7	3

Software usage

The respondents were given a list of popular software programs. They were given the opportunity to indicate which of these software packages they use. The list included widely-used productivity packages i.e. MS Word, MS Excel etc. The researcher also made provision for the reporting of software that did not feature on the list. Respondents could identify more than one package.

Table 13: Software usage by businesses in the informal sector.

Software	Number of respondents	Percentage of respondents
MS Word	25	34
MS Excel	19	26
MS Powerpoint	11	15
MS Project	1	1
MS Access	1	1
Star Office	1	1
Pastel	3	4
Vision	1	1
Quick Books	1	1
Corel Draw	1	1

Usage of electronic mail

Electronic mail (e-mail) proved to be the most popular of the Internet services. Twenty six respondents reported the use of e-mail for business purposes. One respondent indicated that he used it only for private purposes. The data is sorted according to the e-mail service that is used by the business.

Table 14: Usage of electronic mail

E-mail service	Number of respondents	Percentage of Respondents with access
G-mail	10	14
Webmail	6	8
Yahoo	5	7
MSN	2	3
@lantic	1	1
Outlook	1	1
Hotmail	1	1

Usage of Internet services

The researcher also inquired about the use of other Internet services by the respondents. Usage of e-mail that was addressed in the previous question, was excluded. The respondents reported the following uses.

Table 15: Usage of Internet services

Service	Number of respondents	Percentage with access	Percentage without access
Google	22	73	30
Yahoo	13	43	18
Skype	4	13	5
Wikipedia	7	23	10

Usage of Web 2.0 applications

The respondents reported the following involvement in the wide array of applications that are offered within the realm of the Web 2.0.

Table 16: Usage of Web 2.0 applications

Web 2.0 application	Number of respondents	Percentage with access	Percentage without access
Facebook	7	23	10
Twitter	1	3	1
Mixit (mobile application)	6	20	8
My Space	1	3	1
You Tube	5	17	7

Discussion of results

The research on which this paper is based is a pilot project regarding the usage of computing and Internet facilities by the informal business sector in South Africa. The researcher incorporated 73 businesses that are all being conducted in the metropolitan areas.

From the data it was discovered that only 41% of the businesses in the sample enjoy Internet access. As far as access to equipment is concerned, the researcher found that 38% of the respondents had access to desktop computers, 37% to laptops and 84% to mobile phones. This finding is in line with the world wide trend favoring mobile technologies.

With regard to the business functions that technology is used for, the researcher found that 27% of the businesses in the sample uses it for ordering, 26% for marketing, 15% for bookkeeping and a mere 8% for research.

Forty seven percent of the respondents with access use the Internet on a daily basis and 43% weekly. This, respectively, makes up 19% and 18% of the businesses in the sample.

Of those with access, 47% enjoys home access, 37% access at Internet café's or other public facilities and 33% at their place of business. The accounts for 19%, 15% and 14%, respectively, of the total sample.

The rest of the statistical picture projects the same patterns. Thirty four percent of the businesses use MS Word and 26% MS Excel. Fifteen percent indulge in MS Powerpoint. Only 36% percent make use of e-mail services to conduct business.

Thirty percent of the businesses make use of Google, 18% use Yahoo, and 10% get information from Wikipedia. Ten percent do Facebook profiling, 8% are into Mixit, a local messaging system whilst 7% access You Tube.

The general picture is one of technological starvation. However the results generated by the sample point to a technology gap produced by choice and skill rather than mere digital divide caused by infrastructural factors. The lack of computing and e-skills and its impact on these usage patterns may be top worth researching in a follow-up project.

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Annexure A

TYPE OF BUSINESS

African attire

African art

African curio's

Bar snacks

Beads

Books

Buy & braai

Car repairs

Cell phone outlet

Child care

Cleaning supplies

Clothing

Clothing and jewelry

Comp accessories

Computer repairs

Confectionary

Construction

Costume jewelry

Dolls

Driving school

Electronic sales

Fine art

Food stall

Frames

Fruit & Vegetables

Hairdressing

Handbags

Hand-painted clothing

Hot dog stand

Jewelry

Knives

Leather goods

Panel beaters

PC Games

Public phones

Shoe repair

Spaza

Spices

Sports memoribilia

Sunglasses

Taxi

Teddy bears

Ties

Toys

Tuck shop

Tyre repairs

Used books

Welding works