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An Empirical Evaluation of the Impact and Challenges of Electronic Banking System in Nigeria

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ABSTRACT

Electronic banking system (EBS) which is synonymous to electronic funds transfer (EFT) has become an important practice among commercial banks in Nigeria. The introduction of electronic banking has improved banking efficiency in rendering services to customer, It was in line with this that the paper aims at examining the impact of electronic banking system in Nigeria. Through the cluster sampling technique, data was collected by means of questionnaires. To this end, it is recommended that the bank information technology training programme should be encouraged among the staff of banks; necessary legal ethical codes in banking should be established in order to enhance growth of the industry among others.

Keywords: ATM Card, Electronic Data Interchange (EDI), Electronic Money, Electronic Recruitment, Internet Banking & Electronic Web Collection

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1. BACKGROUND OF THE STUDY

The Banking industry of the 21st century operates in a complex and competitive environment characterized by these changing conditions and highly unpredictable economic climate. Information and Communication Technology (ICT) is at the centre of this global change curve of Electronic Banking System in Nigeria today. (Stevens 2002). The application of information and communication technology concepts, techniques, policies and implementation strategies to banking services has become a subject of fundamental importance and concerns to all banks and indeed a prerequisite for local and global competitive banking. The advancement in Technology has played an important role in improving service delivery standards in the banking industry. In its simplest form, Automated Teller Machines (ATMs) and deposit machines now allow consumers carry out banking transactions beyond banking hours.

With online banking, individuals can check their account balances and make payments without having to go to the bank hall. This is gradually creating a cashless society where consumers no longer have to pay for all their purchases with hard cash. For example: bank customers can pay for airline tickets and subscribe to initial public offerings by transferring the money directly from their accounts, or pay for various goods and services by electronic transfers of credit to the sellers account. As most people now own mobile phones, banks have also introduced mobile banking to cater for customers who are always on the move. Mobile banking allows individuals to check their account balances and make fund transfers using their mobile phones. This was popularized by First Atlantic Bank (now First Inland Bank) through its “Flash me cash” product Customers can also recharge their mobile phones via SMS. E-Banking has made banking transactions easier around the world and it is fast gaining acceptance in Nigeria.

The delivery channels today in Nigeria electronic Banking are quite numerous has it is mentioned here Automatic Teller Machine (ATM), Point of Sales (POS), Telephone Banking, Smart Cards, Internet Banking, etc. Personal computers in the Banking industry was first introduced into Nigeria by Society Generale Bank as the popular PC easy access to the internet and World Wide Web (www) and internet is increasingly used by Bank’s as a channel of delivering the products and services to the numerous customers. Virtually almost all Banks in Nigeria have a web presence; this form of banking is referred to as Internet Banking which is generally part of Electronic Banking. The delivery of products by banks on public domain is an indication of advertisement which is known has E-Commerce.

Electronic commerce on the other hand is a general term for any type of business or commercial transaction it involves the transfer of information across the internet. E-Commerce involves individuals and business organization exchanging business information and instructions over electronic media using computers, telephones and other communication equipments. This covers a range of different types of business from consumers to retails products. However, Electronic banking as it is; is a product of E-commerce in the field of banking and financial services. It's offers different online services like balance enquiry, request for cheque books, recording stop payment instructions, balance transfer instructions, account opening and other form of traditional banking services.

1.2 Objectives of the Study

The main objective of this paper is to examine impact of electronic Banking in Nigeria banking system on how difference channels could enhance the delivery of consumers and retails products, and also how Banks choose to support their Electronic Banking component/services internally, such as internet services provider, Internet banking software, Core banking vendor, Managed security service provider, Bill payment provider, Credit Business and Credit scoring company, E-Banking systems rely on a number of common components or process.

Specifically the study objectives are;

a) To evaluate the prospects of electronic Banking in some banks
b) To evaluate the impact of electronic Banking in Some banks
c) To examine whether electronic banking has improve the fortune of the banking industry.
d) To examine the effect of electronic banking has it improve the fortune of the banking industry.
e) To examine whether the Bank electronic Banking guideline comply with the CBN electronic Banking guideline policy.

1.3 Research Hypothesis

The following hypotheses are formulated in null form to guild the study.

1. Ho: Electronic banking does have prospect in some banks
Hμ: Electronic banking does not have prospect in some banks

2. Ho: Electronic banking does impact in some banks
Hμ: Electronic banking does not impact in some banks

3. Ho: Adoption of Electronic banking does enhance the fortune of the banking industry.
Hμ: Adoption of Electronic banking does not enhance the fortune of the banking industry.

4. Ho: Electronic banking does improve Bank Customer relationship
Hμ: Electronic banking does not improve Bank Customer relationship

5. Ho: The Bank electronic banking guideline does comply with the CBN electronic banking guideline.
Hμ: The Bank electronic banking guideline does not comply with the CBN electronic banking guideline.

2. LITERATURE REVIEW

Electronic banking system is a conventional banking system which stated in Nigeria in 1952; (Benjamin 2001). Since then, the industry has witnessed a lot of regulatory and institutional advances. The industry was being controlled by at most five out the 89 banks in existence before the commencement of the merger and acquisition of banks in Nigeria economy. Multiple branch systems is also one of the notable features of Nigerian Banks, with a total of 89 banks accounting for about 3017 bank branches nationwide as at 2004. As well, the industry was faced with heavy challenges including the overbearing impact of fraud and corruption. Erosion in public confidence, a poor capital base, persistent cases of distress and failure poor asset quality and so on. Part of the moves to resolve these lingering problems include the banking reform initiated by the Central Bank of Nigeria in June 2004, which is largely targeted at reducing the number of banks in the economy and making the emerging banks much stronger and reliable. So far, the banking reform has been a success story with 25 mega banks emerging after the recapitalization exercise which ended on 31st December, 2005 in the bid to catch up with global development and improve the quality of their service delivery.

Nigerian banks have no doubt invested much on technology; and have widely adopted electronic and telecommunication networks for delivering a wide range of value added products and services. They have in the last few years transformed from manual to automated systems. Unlike before when ledge-cards were used, today banking has been connected to information technology networks, thereby facilitating the practice of inter-banking and inter-branch banking transactions. Development domestically has the introduction of mobile telephone in 2001 and improved access to personal computers and internet service facilities have also added to the growth of electronic banking in the Nigeria banking sector. However, whereas local banks most commonly practice real time online internet banking, the integration of customers into the process is far from been realized. Many of the reasons are attributed to the high prevalence of internet fraud and lack of an adequate regulatory framework to protect the banks from the volatility of risks associated with internet banking, especially at the levels of communication and transaction. In the main, Nigeria is globally regarded as the headquarters of Advance Fee Fraud which is perpetrate mostly via the internet (Journal of international affairs vol. 51, 209-301.

2.1 The View on Electronic Banking

The vast majority of the recent literature on electronic money and banking suffers from a narrow focus. It generally ignores electronic banking entirely and equates electronic money with the substitution of currency through electronic gadget such as smart cards and virtual currency. For example, **Freedman (2000)** proposes that electronic banking and electronic money consist of three devices; access devices, stored value cards, and network money. Electronic banking is simply the use of new access devices and is therefore ignored. Electronic money then is the sum of stored value (smart) cards and network money (value stored on computer hard drives). What is most fascinating and revealing about this apparently popular view is that electronic banking and electronic money are no longer functions or processes, but devices. Within this rather narrow scope for electronic banking and electronic money, there are nonetheless many research that address one or more of the challenges facing it. Santomero and Seater (1996), Prinz (1999), and Shy and Tarkka (2002), and many others present models that identify conditions under which alternative electronic payments substitute for currency. Most of these models indicate that there is at least the possibility for electronic substitutes for currency to emerge and flourish on a large scale, depending on the characteristic of the various technologies as well as the characteristics of the potential users.

Berentsen (2008) considers the impact that the substitution of smart cards for currency will have on monetary policy, arguing that although electronic substitutes for currency will become widespread, monetary policy will continue to work as before because this currency substitution will leave the demand for central Bank reserves largely intact.

Goodhart (2000) discusses how monetary control would work in an economy in which Central Bank currency has been partially or completely replaced by electronic substitutes.

Cohen (2001) distinguishes between monetary control and monetary autonomy, where monetary control is the ability of the Central Bank to control monetary aggregates demand and the supply of money, while monetary autonomy is the ability of the Central Bank to influence output and prices. Cohen argues that the introduction of electronic currency substitutes will not reduce monetary control, but may reduce monetary autonomy, in other hand; **Kobrin (1997)** argues that electronic currency substitutes are part of a general process of technological advance and globalization that are rendering national authorities of all kinds impotent and obsolete.

Lee and Longe-Akindemowo (2009) present the standard justification for regulation of financial markets – systemic risk and consumer protection; they argued that both will justify regulation of electronic currency substitutes. They noted that European regulators have already defined stored value cards as the taking of a deposit, so that only banks may issue them. Several other authors, particularly Central Bankers such as **Freedman (2000)**, have argued that the state can always use its power to regulate electronic money providers if they prove to be detrimental to monetary policy or financial stability.

Helleiner (2008) makes the case that such coercive power will still be effective in a world of electronic banking. **Tanaka (2006)** on the other hand, proposes the establishment of a monetary authority in cyberspace that will control electronic currency substitutes.

Friedman (2009) point out that electronic banking presents the possibility that an entire alternative payment system, not under the control of the Central Bank of Nigeria may arise. In an extreme variant of **Friedman**, **King (2009)** argues that today computers make it at least possible to bypass the payment system altogether, instead using direct bilateral clearing and settlement; the responses to **Friedman.**

Woodford (2000) argue that the Central Bank will either continue to provide the payment system of choice, or will find alternative ways to conduct monetary policy through stabilization of short-term interest rates regardless of what form of money is being used. Although this second set of research introduces some critical issues, it is too vague about what exactly is meant by electronic money and banking. Part of the vagueness stems from the focus of these papers on the payment system rather than on the payment media. Nonetheless, a complete view of electronic money and banking should include both the payment system and the media used in the system. The feasibility of an alternative payment, after all is intimately tied to the feasibility and desirability of the media flowing through that system.

1.7 Electronic Banking and the Common Banking Products

The use of information technology in banking operations is called electronic banking **Ovia 2001** argue that Electronic banking is a product of e-commerce in the field of banking and financial services. In what can be describe as Business-to-consumer (B2C) domain for balance enquiry, request for cheque books, recording stop payment instruction, balance transfer instruction, account opening and other forms of traditional banking services. Banks are also offering payment services on behalf of their customer who shop in different e-shops.

2.2 Telephone and PC Banking Products

This is a facility that enables customers, via telephone calls, find out about their position, with their bankers merely dialing the telephone numbers given to them by the banks. In addition, the computers on the phone would require special codes given to the customers as a means of identification of authentic users before they can receive any information they requested for. This is a service introduced into the banking balance as a result of computer telephone technology being made available Ovia (2001). The technology banking has a universe of possible application limited only by the imagination. These areas include: Account balance enquiry; Account statement printing; intra-Banks Account to Account Transfer; inter-banks Account to Account Transfer; Download Account Transaction etc. Telephone and PC banking brings the bank to the doorstep of the customer, it does not require the customer to have his premises; interactive Voice Response becomes a regular feature of operations; Text-to-speech capability becomes reality; A uniformed messaging capability become permanent feature of the bank.

2.3 The Card System

The card system is a unique electronic payment type. The smart cards are plastic devices with embedded integrated circuit being used for settlement of financial obligations. The power of cards lies in their sophistication and acceptability to store and manipulate data, and handles multiple applications on one card securely **(Amedu, 2005).** Depending on the sophistication, it can be used as a Credit Card, Debit Card and ATMs (Automatic Teller Machine). While the electronic card is gaining popularity in USA and Nigeria, the Spanish financial Institution demonstrated the highest implementation and update of smartcards across Europe **(Amedu, 2005).** The Smart Card was introduced into the Nigerian market to reduce or eliminate problems of carrying cash about **(Amedu, 2005).** It is electronically loaded with cash value and carried about like credit card and stores information on a microchip.

The microchip contains a "purse" in which value is hold electronically. In addition, it also contains security programs; these protect transactions between one card user and the other. It can also be transferred directly to a retailer, merchant or other outlet to pay for goods and services, and like cash, transaction between individual without the needs for banks of the other third parties. Also, the system does not require central clearing. It is valued immediately. Also the system allows transfer of one value to the other hence it operates like cash.

2.4 The Automated Teller Machine (ATM)

Worldwide, the use of paper cash still remains the most widely used and acceptable means of settling financial transactions and obligations. However, the proportion of cash transactions is increasingly on the decline, especially in advanced economics **(Amedu, 2005).** In USA, where the use of cash is still prominent, compared with European countries, it represents 50 percent or more of the total transactions. Of course, cash is a non-electronic payment method. However, the physical carriage of cash as well as the visit to the bank branches is being reduced by the introduction of an electronic device, **ATM**.

An ATM device allows a bank customer to withdraw cash from his account via a cash dispenser (Machine), and the account is debited immediately. A fundamental advantage is that it needs not to be located within the banking premises. It is usually in stores, shopping malls, fuel stations etc.

2,5 Cheque

A cheque is a paper based payment instrument whose usages are still gaining ascendancy. The Automation focus on this instrument is to reduce the number of clearing days and improve on security arrangement in the course of settlement and collection. For example, in Nigeria the Central Bank of Nigeria CBN has just embarked upon online clearing and Nigeria has signified interest and signed path to this project **(Johnson, 2005).**

2.6 The Entry of Nigerian Banks into Electronic Banking

Electronic banking both as a medium of delivery of banking services and as a strategic tool for business development, has gained wide acceptance internationally and is fast catching up Nigeria with more and more banks entering the fray. Nigeria can be said to be the threshold of a major banking revolution with net banking having already been unveiled **(Ovia, 2001)**. Of all the sectors in the Nigeria Economy, Banking stands out despite "a not too good" Economy. Electronic banking provides the facility of accessing customer accounts from anywhere in the world by using a home computer with Internet connection, is particularly fascinating to Non-Resident Nigerians and High Net worth Individuals having multiple bank accounts. The growth potential is, therefore, immense. Further incentives provided by banks would dissuade customers from visiting physical branches, and thus get 'hooked' to the convenience of armchair banking.

At present, the situation does not seem to have shown any significant improvement. Whereas about 90 percent of the banks in the country offer other forms of electronic banking services like telephone banking. ATM and electronic fund transfer, Internet banking is yet to take centre stage. This aspect of banking is still at the basic informative stage **(Ovia, 2001)** this is so despite the widely acclaimed benefits of Internet banking against the traditional branch banking practice. Part of the reasons identified for the inability of banks in Nigeria to take full advantage of this mode of banking includes lack of adequate operational infrastructure like telecommunication and power, upon which Electronic banking generally relies. Due to the inability of the banks to integrate their operations into the Internet development process, Internet banking can be said to have less in the existing banking structure in the country.

Earlier articulate reasons why Internet Banking was having a moderate economic impact in the country include that Nigerian bank customers are not on the average trained on for teller jobs and the working of internet banking, a situation which makes transaction processing via internet banking prone to error; the absence of a clearly defined legal frame-work for internet banking, leaving banks with inadequate legal cover to provide the services; and poor telecommunication infrastructure all over the country. In addition, the fact that internet assuage in the country has been abused by cybercriminals makes its window unattractive for domestic banking operations and legitimate international operations. The inherent fear associated with patronizing internet banking services in Nigeria is again re-enforced by the growing evidences that the world over, dubious Nigerians use fake websites to scoop funds from unsuspecting victims. In some cases, these crimes are committed using existing bank sites.

2.7 Threats of Cyber-Crimes on the Nigerian Banking Premises

The Advances fee fraud or 419, which is one of the most popular of all internet frauds, Has its origin from Nigeria in the 1980s. Its development and spread follows the path of the developments in information technology at inception, postal letters were used as key media for committing 419 frauds. Later in the early 1990s, it became integrated into telecommunication facilities such as the telephone and fax from the late 1990s following the introduction of computers and internet, 419 crimes became prevalently perpetrated through the use of e-mail and other internet means **(Amedu, 2005).** The latest dimension taken by the perpetrators of this crime is the use of fake internet bank site, and using that to encourage victims to open accounts with them.

The country is country is the third highest ranked in internet 'money offer' frauds. As was reported in one of the national newspapers, frauds and forgeries in Nigerian bank as at June 2005 stood at 329 or N1.15 billion monetary equivalent, against 222 cases or N1.47 billion monetary equivalent in April same year. There is even global suspicion that a Nigerian crime syndicate that coordinates global crimes such as money laundering, bank fraud and 419 seams exists today. These issues basically defeat the key ingredients of electronic banking, which includes confidentiality, integrity and availability. Several factors are responsible for the above situation. They include inordinate

tolerance for corruption among Nigerian public and government agencies; weakness of the existing legislative/judicial institutions to make and enforce relevant laws on cybercrimes; quality of graduates in terms of professional values and ethics; chronic unemployment among graduates, and the widening gap between the few rich and the many poor caused mainly by bad governance. In the main, erosion of good value principles and corruption constitute the greatest cause of rising cyber-crimes among Nigerian (Domestic electronic payment in Nigeria) **(Amedu, 2005).** This, according to transparency International, is worsened by fact that several generations of Nigerians have been raised in this norm. Hence, what is seen as a dangerous global crime is socially acclaimed and glamorized in Nigeria.

The above situation constitutes the environment upon which Electronic banking has emerged in Nigeria. Although the level of the adoption and practice of electronic banking (especially Internet banking) has remained quite insignificant, global projections still remains that Information Technology would continue to play a revolutionary role in the development and delivery of banking products and services all over the world. In effect, it is this projection that has raised pertinent regulatory questions concerning Electronic banking, especially in Internet fraud-infested countries like Nigeria. One key issue here borders on how to handle the rising level of frauds and forgery prevalent in the entire banking system; and how to make Internet banking fit well in the banking structure of a country so notoriously identifiable with criminals use Internet access.

3. RESEARCH METHODOLOGY

3.1 Population of Study

The population to be used in this study covers about 40 credit officers of some banks. The population selected was designed to obtain adequate and diverse views pertaining to the level and impact of electronic banking in some banks.

3.2 Sampling Techniques

The technique is used to ensure that all the segment of the population is included in the sample. The sample is drawn from the credit officers of some banks.

3.3 Sample Size

The sampling size to be used by the researcher in this study constitute (40) officers some banks.

3.4 Sources of Date

The researcher uses both the primary and secondary data in the study. The primary data are collected by the researcher through the use of questionnaire while the secondary data are data collected from CBN electronic banking guideline, annual report of few banks, and CBN annual report etc.

3.5 Method of Data Analysis

The study used both descriptive and inferential statistics in analyzing the data. Also, simple frequency counts, percentages and the chi-square were used in the data analysis.

3.5.1 Test of Hypotheses and Inference

The chi-square test was employed by the researcher to test the significance of the responses from the credit officers of few banks(respondent). The chi square test is performed by defining the numbers categories and observing the number of case falling into each category and knowing the expected number of cases fully in each category, the formulae for the chi-square is:
Where Z2 = Chi-square 0i = Number of observed case in category i
Ei = Number of expected cases in category i
K = Number of category, summation runs from 1=1 to 1=K

3.5.2 Decision Rule and Justification

A set of decision rules is the verbal equivalent of a graphical decision tree, which specifies class membership based on a hierarchical sequence of (contingent) decisions. Each rule in a set of decision rules therefore generally takes the form of a Horn clause wherein class membership is implied by a conjunction of contingent observations.

4. DATA ANALYSIS AND DISCUSSION OF FINDINGS

A total of 40 questionnaires were distributed to the various credit officers of some banks in Akwa Ibom State. After the questionnaires were filled by the respondents and collect back, they were screened and sorted out by the researcher. The detail of the returned questionnaires shows that out of 40 sent out, 35 only were completed and returned, while 3 were not returned and 2 were rejected because they were not properly completed. Hence 87.5% of the respondents returned their questionnaires.

4.1 Presentation and Analysis of Data

4.1.1 Qualification of Respondent

The researcher was able to meet with the respondent to know their level of qualification.
The table below shows their different qualifications and their response.

Table 4.1: Qualification of Respondents

ALTERNATIVE	RESPONDENT	PERCENTAGE
OND	5	14.3
HND	9	25.7
BSC	14	40
MSC/MBA	7	20
PHD	0	0
TOTAL	**35**	**100**

Source: Field Survey, 2016

4.2 Hypothesis One

Table 4.2 Chi Square table on the fortune of some Banks

Adoption of electronic banking does not enhanced the fortune of some Banks

Respondents view	**0i**	**Ei**	**0i-Ei**	**$(0i-Ei)^2$**
Strongly Agree	17	7	10	100
Agree	13	7	6	36
Undecided	3	7	-4	16 Disagree
	2	7	-5	25
Strongly Disagree	0	7	-7	49
TOTAL	**35**	**35**	**0**	**226**

Source: Computed from Data, 2016

Therefore, Z^2 (Chi-Square) value calculated is 32.27

The degree of freedom K – 1, 5 – 1 = 4

Using the statistical table to find the value of Z^2

4; 0.05, the result is =9.4877

Decision rule: since X^2 calculated is greater than X^2 tabulated, (32.27 >9.4877) at 5% confidence level and 4 degree of freedom, the third null hypothesis is rejected and the 50 alternative hypothesis which stated that "Adoption of Electronic Banking would Enhanced the Bank's Fortune" is accepted.

4.3.5 Hypothesis Two
Some banks Electronic Banking Guideline does not comply with the CBN Electronic Banking Guideline.

Table 4.16 Chi-Square Table on the CBN Electronic Banking Guideline

Respondents view	**0i**	**Ei**	**0i-Ei**	**$(0i-Ei)^2$**
Strongly Agree	19	7	12	144
Agree	14	7	7	49
Undecided	0	7	-7	49
Disagree	1	7	-6	36
Strongly Disagree	1	7	-6	36
TOTAL	**35**	**35**	**0**	**314**

Source: Computed from Data, 2016

Therefore, Z^2 (Chi-Square) value calculated is 44.85

The degree of freedom K – 1, 5 – 1 = 4

Using the statistical table to find the value of Z^2

4; 0.05, the result is =9.4877

Therefore, X^2 calculated = 44.85

X^2 tabulated = 9.4877

Decision rule: since X2 calculated is greater than X2 tabulated, (44.85 >9.4877) at 5% confidence level and 4 degree of freedom, the second null hypothesis is rejected and the alternative hypothesis which stated that "Some Banks Electronic banking Guideline comply with CBN electronic banking Guideline" is accepted.

5. CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

Based in the summary of the major findings the following conclusions are drawn:

1. The adoption of electronic banking has enhanced some banks efficiency by making them more productive and effective.
2. Electronic Banking also has a strong impact on the overall banking performance by making workers performance more effective and efficiency.
3. The adoption of electronic banking has enhanced the fortune of the banking industry. This is achieved through bank charges, cheque, withdrawal slip and withdrawal charges.
4. The electronic banking has improved the bank customer relationship by rendering effective services throughout the week. Customers can now have access to their account outside working hours to make withdrawal to attend to their needs.
5. The electronic banking guideline introduced by CBN strongly helps in effective electronic banking system. Withdrawal can be made anywhere at any time and using any bank ATM machine, customer cannot withdraw more than some certain amount to allowed other customers have access to cash and money, can be transfer from one place to another through electronic means.

In general conclusion the electronic banking has made banking transaction to be easier by bringing services closer to its customers.

5.2 Recommendations

In order to give the growing trends of Information and Communication Technology (ICT) which involves net banking and e-commerce in banks a vision in the right directions, the following strategies are recommended for further follow up:

1. The banks must be focused in terms of their needs and using the right technology to achieve goals, rather, than acquiring technology of internet banking because other banks have it.
2. Government participation in ensuring focused telecommunication industry must be visible to reduce or remove avoidable costs of implementing e-commerce and internet banking.
3. Regulatory authorities like CBN (Central Bank of Nigeria) must stipulate standards for the banks to follow to avoid making Nigerian Banking Sector a dumping ground for the outdated technological infrastructures.
4. Training and Manpower development is another major problem militating against the growth of e-commerce in the country. Government must make right IT policy by ensuring that Computer, Communication equipments and other IT infrastructures to a large extent are manufactured in the country so that our people can acquire first hand necessary skills. Government Policy that will guide against Money laundering, fraud and Security risks posed by net banking is inevitable.
5. To counter the legal threat and security posed to net banking and e-commerce the necessary legal codes backing the industry must be established. This will enhance the growth of the industry

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