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The Influence of Borrowing on Morphological Structures in Swahili

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Abstract

This study aims at exploring the impact of borrowing on the morphological structures of Swahili language, with a view on loanword integration and its effects on the grammar of the language. The study adopts a descriptive approach with a qualitative research design. The data were collected from Swahili texts, semi-structured interviews from 20 participants, and field observations in various situations. Dictionaries and linguistic databases, including *Kamusi ya Kiswahili Sanifu*, were consulted to identify the source and integration of loanwords. Processes such as phonological adjustment, noun class integration, and formation of verbs are identified in the analysis. Some examples include: switching from the initial consonant-vowel (CV) structure of Swahili to a word like *kitabu* for book, or *kompyuta* for computer, but there are some, like *basi* for bus, that have morphosyntactic irregularities. Verbs such as *ku-instal* from ku- together with install, meaning 'to install,' are examples of English influence in technological area. Comparison with Bantu languages like Luganda and Zulu shows that different strategies are used in borrowing. Sociolinguistic factors like the prestige of the donor languages such as Arabic and English also influence the borrowing. Religious terms are mainly from Arabic, and technical vocabulary from English. The findings further show how Swahili is able to incorporate new linguistic innovation without compromising on grammatical integrity and, in the process, provides some insights into the contact and development of language. Its relevance is in informing language policy and curriculum design on standardizing the use of loanwords in Swahili to promote effective communication and language maintenance. Secondly, it advances linguistic theory by providing evidence on how contact and innovation in language go together with stability in the grammar.

Keywords: bantu, borrowing, loanwords, morphology Swahili

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Introduction

Swahili is a Bantu language, and it has been traditionally utilized as a lingua franca in East Africa, specifically, Tanzania, Kenya, Uganda, and Democratic Republic of Congo (Rødland, 2021). It has been utilized for transaction of commerce, instruction, administration, and cultural interactions, as well as being in contact with a chain of languages such as Arabic, English, German, Portuguese, and Indian languages (Ojwang, 2008; Sides, 2020). A decent number of lexical borrows have taken place because of these contacts, namely, adoption of loanwords and other linguistic features from other languages into Swahili (Maho, 1999; Myers-Scotton, 1993).

The borrowing of linguistic features has not only contributed to the enlargement of the vocabulary of Swahili; it has also influenced morphological structures within the language (Karũrũ, 2013; Jika, 2017). Morphology, the study of word structure, is also an important aspect of Swahili, a language which has agglutinating syntax and uses affixes to convey tense, aspect, mood, negation and noun classes (Mugane, 2015). Borrowed words are usually made to comply with Swahili phonology and morphology, which has a typical CV syllable onsets structure and noun classes (Mapunda & Ilonga 2022). For instance, loanwords are made to agree with the appropriate noun classes through the use of prefixes, like the Arabic word *kitāb* is transformed to *kitabu* in Swahili (Chrispina, 2022). However, this has also brought about some changes that are in a certain way contradictory to the traditional morphological structure. Some of the borrowed terms are not fully integrated, and retain the morphological structure of the source language. For instance, the noun *kompyuta* from English does not always follow the Swahili noun class system and thus leads to syntactic category errors (Marten et al., 2024). In the same manner, verbs created from borrowed nouns are usually half and half; they are made of native Swahili suffixes together with the roots of the borrowed words, for example, *ku-chat* (‘to chat’), based on English language (Marten et al., 2024). Effects of borrowing on Swahili morphology are also seen in the semantic and pragmatic levels of the language (Ennaji, 2025). Borrowed terms provide new or more specific meaning to some concepts, which results in changes in the morphological structures in order to meet the developing communicative needs (Mapunda & Ilonga, 2022, Mugane, 2015).

Moreover, other sociolinguistic factors such as the status of the donor languages (for instance, Arabic because of its religious and historical role or English because of globalization) influence the way in which the borrowed elements are used and incorporated (Ilonga, 2024; Marten et al., 2024). Their implications for language identification as well as grammatical stability in the long-term make the morphological realization of borrowings significant (Omari & Komba, 2022). The adoption of borrowed material in Swahili language is a befitting example for highlighting the robustness of its morphological system, and more generally speaking, language contact, change as well as evolution in a linguistically diverse region (Marten et al., 2024).

In a complementary discussion on contact and borrowing in language, Tariq Rehman's work on Pakistani English offers informative analogues. In his study on Pakistani English, Rehman (2015) details how English in Pakistan has borrowed from Urdu as well as other regional tongues to create a localized form with distinctive lexical, phonological, and morphological characteristics. The phenomenon, like borrowing and hybridization in Swahili, illustrates ways in which contact languages evolve, mutate, and develop to suit local identities as well as communicative needs. The discussion conducted by Rehman establishes the fluid dynamics of language evolution, especially in a postcolonial context, within which borrowed elements essentially reset vocabularies instead of impacting vocabularies directly. Incorporating Rehman's study enhances our knowledge about morphological changes in Swahili because it relates to the universal phenomenon of linguistic borrowing.

Despite the prevalence of research on Swahili lexical borrowing, there appears to be an acute research gap on cross-analyses concerning the impact of such borrowages on the morphological structure of the language, in light of the emerging globalized phenomenon, as well as technological intervention.

Most such scholarships so far have worked on individual case studies such as phonology or nouns' classification in isolation without considering their overall effect on language's grammar and identity. Addressing such a lacuna is the reason why the current study has worked on the borrowing patterns and consequent effects on Swahili morphology comprehensively using modern data to reflect contemporary realities on the ground. This study investigates the patterns and effects of borrowing on the

morphological structures of Swahili to see how foreign elements are incorporated in the language and their effects on the grammatical framework of the language.

Literature Review

The Impact of Borrowing on Swahili Morphology

Language borrowing is a process that occurs continuously, and affects the linguistic structure of contact languages greatly. Extensive lexical borrowing has been undergone by Swahili, the most derived language in East Africa, due to historical and contemporary interactions with Arabic, English, Portuguese, German, and Indian languages (Marten et al., 2024; Myers-Scotton 1993; Rødland 2021). While earlier studies have documented these borrowings, they vary in their perspectives on the extent of morphological changes and their implications.

Phonological Adaptation

The adaptation of the loanwords in terms of phonology is considered as the initial level of adaptation as it provides avenues for the adoption of a CV syllable pattern common in Swahili. It has been observed, according to Hinnebusch (1979) and Mwikali (2018), as confirmed by Schadeberg (2009) and Mwakasege (2024), though often it involves the addition of a vowel to avoid a foreign cluster, as in *kitāb* → *kitabu*, meaning 'book' in Arabic; though examples have been noted, as in computer → *kompyuta*, meaning 'computer' in English. Nevertheless, while it has been observed, because of initial research conducted, as indicated by Mwikali (2018), and Schadeberg (2009), adaptation keeps following the usual form of Swahili, however, the effects of English, as indicated in current research conducted, and supported by Harvey and Mreta (2016), bring about irregular phonological adaptation patterns like school → sikuli, which diverges from traditional Swahili patterns. Furthermore, while Hinnebusch (1979), Mwikali (2018), and Ndunguru (2024) claim that phonological adaptation is a rule governed process that increases language homogeneity, Rødland (2021) expresses fear that too many loans slowly erode the pure phonology of Swahili by bringing in foreign sounds. This divergence suggests the need for further investigation into whether Swahili is maintaining phonological stability or moving toward a hybrid phonetic system.

The Noun Class System

Bantu system of classifying nouns is a characteristic feature of Swahili and loan words tend to be assigned classifying prefixes, e.g. *kitabu – vitabu* (book – books) (Muaka 2023; Schadeberg 2009). There are exceptions though with English-derived expressions like *basi* and *kompyuta* tending to arrive in source form, as opposed to ideally adapted forms of Arabic roots (Amani, 2024). Schadeberg (2009) opines that a noun class system in Swahili allows for flexibility in incorporating loanwords, yet Amani (2024) and Myers-Scotton (1993) oppose that English derived words are destroying this pattern, leading to semi-integrations that do not obey classic Bantu morphology. This is a key question that this study seeks to investigate: is Swahili's noun class system evolving, or being eroded by foreign linguistic influence? This study seeks to investigate how widespread such irregularities have become in modern Swahili usage.

Borrowing and Verbal Morphology

Another feature of attention in the study of loanwords is how Swahili's agglutinative morphology welcomes borrowed verbs. Robinson (2024) and Petzell (2005) verify the truth in borrowed root morphs from Arabic and English having breathed life into new mixed verb formations such as *ku-instal* and *ku-fomati* 'to install and to format'. What Myers-Scotton (1993) considers a very clear manifestation of the resilience of language; Hassan (2023) shows concern about for an excess of borrowing, stripping Swahili of the conventional rules for derivation of verbs. In addition, while Petzell (2005) states that, these hybrid variants have become irreparable in the quest for technological advancements; Robinson (2024) argues that Swahili has ways of creating new verbs, suggesting instead that the pervasiveness of borrowed verbs is considered a convenience rather than a prerequisite. The current discourse, however, establishes the importance of investigating the significance of these borrowed verbs as a form of linguistic innovation instead of being the weakening of the Swahili grammatical system.

As a response to this concern, recent studies (Amani, 2024; Ilonga, 2024) argue that even though over-borrowing is detrimental to typical morphological structures, it does not necessarily work against Swahili's general status. Instead, it is proof of a natural accommodation in language to the trends of globalization and technological development. The language offsets the maintenance of its identity through innovation operating within

its grammatical system, which sustain its vitality and saliency in contemporary-day conditions more than undermining them. Accordingly, borrowing's impact on Swahili's status is multi-dimensional and conditional on sociolinguistic ideology, language planning, and community practice.

The Role of Sociolinguistic Factors in Borrowing

The role of sociolinguistic factors in determining borrowing patterns is well and squared. Hinnebusch (1979) and Hassan (2023) establish that Arabic is borrowed in the religious and social vocabulary, with words such as *salamu* which means greetings, and *madrasa* which means school in Swahili. On the other hand, Myers-Scotton (1993) and Amani (2024) point out that English is the main source of the modern borrowings, especially in science, technology and business. A major issue that scholars such as Robinson (2024), and Lupapula (2022), Lusekelo (2018), and Lusekelo (2018) have raised is whether these sociolinguistic factors enhance or weaken the identity of Swahili. While Kanijo (2018) argues that borrowing is a way of enabling language to grow and develop, Hakimov and Backus (2021) and Kutsukake and Yoneda (2019) argue that over reliance on dominant languages reduces the linguistic autonomy of Swahili.

Research Gap

Despite the fact that extensive research has been done on Swahili borrowing, several gaps remain. The focus has been rather limited to interconnections. Previous studies have been looking at phonology, noun classification and verbal adaptation in isolation without paying attention to how such processes affect the overall morphological system of Swahili. Lack of recent data is another issue. The majority of studies are dedicated to the analysis of borrowing tendencies prior to 1990s, not capturing the impact of globalization and technology-driven borrowing, including the one from English in the recent years. Furthermore, there has been a heavy reliance on corpus-based analysis. Many studies emphasize theoretical frameworks and textual data while neglecting real-life spoken language, field observations, and user perceptions. There have also been many unexplored grammatical and identity implications. While borrowing is well-documented, its long-term effects on Swahili grammar and linguistic identity remain underexplored.

Hence, this study aims to fill the gaps by investigating how

phonological, morphological, and sociolinguistic factors combine to affect the uptake of borrowed words considering the present-day borrowing trends, in particular from English, in the frame of reference of technology and globalization. The study uses field data collected through interviews, observations and corpus analysis to identify the actual cases of borrowing. In doing so, the study also examines the long-term implications of borrowing for the grammatical structure and identity of the Swahili language. In examining these areas, this study will provide a systemic insight into the patterns and effects of borrowing on the morphological structures of Swahili and gain understanding into the general processes of language contact, change, and evolution.

Methodology

This study adopts both qualitative and descriptive research designs to investigate the effect of borrowing on the morphological structure of the Swahili language (Creswell et al., 2018). The study aims at gathering, classifying, collecting, analyzing and interpreting data on Swahili loanwords and their adoption in the Swahili language. Of particular interest are the phonological adjustments, the integration into the noun class system and the formation of the verbs (Leavy, 2020). The methodology is divided into the following components:

Research Design and Approach

The study employs a qualitative research design to delves deeply into the linguistic phenomena in natural settings (Yadav, 2022). The design describes the use of borrowed words within the morphological structure of Swahili (Denzin & Lincoln, 2018). It also allows for a detailed view of exactly how the Swahili loans are borrowed from the dominant languages, particularly Arabic, English, and Portuguese, without undermining the morphological structure.

Sampling and Participants

For the purposes of this study, a purposive sampling method was used to select 20 participants for having used borrowed words in Swahili to the required standard. The determination of the sample size was adequate to ensure a representative sample. The research objective of focusing on all members of a pre-defined group could not be attained.

Data Collection Procedures

To cover all angles of this study, a number of research techniques were utilized. Corpus Analysis required the study of both Swahili corporas from literary writing, newspaper articles, scholarly articles, as well as online postings, for morphological adaptation of the borrowed words. Use of dictionaries and corporas of languages such as *Kamusi Ya Kiswahili Sanifu* contributed significantly to identifying where the borrowed words originated from, as well as the morphological adaptation they have undergone to fit into the Swahili language. The use of Semi-Structured Interview Technique on 20 research participants enabled a glimpse into the use as well as acceptance of borrowed words, and morphological adaptation. Observations were conducted as a form of research. The research observed participants use of morphological adaptation on markets, within class environments, and from online television programs. Secondary Data from scholarly research on the morphological adaptation of Swahili, as well as other Bantu languages, provided an overview of trends surrounding the use of borrowed words. Different methods of data collection were used to achieve a wide coverage of the study areas. The criteria used in selecting participants were based on representativeness, diversity, and relevance.

Corpus Analysis

Corpus analysis provides the foundation of this research with consideration to enable a systemic investigation of loanword use in variegated Swahili content (Leavy, 2022). The corpus was constructed on the basis of measures of language diversity, measure of freqencies of borrowings, as well as modern relevance of Swahili. It comprises literary compositions, newspapers' content, scholarly journals, as well as web content with consideration to capture both formal patterns of usage as well as informal patterns of usage. Empirical identification of loanwords together with morphological inclusion in natural speech usage is made possible by this approach for unifying theory templates with realized data of linguistics. The corpus was carefully constructed from available as well as credible sources with large readership among Swahili-speaking people in order to achieve representativeness as well as data reliability. They included:

1. Literary Texts: Books and novels written in Swahili were analyzed to

determine how borrowed words are used in academic and narrative prose. These texts were chosen from among famous Swahili authors and reputable publishing houses to guarantee linguistic accuracy.

2. Newspaper Articles: Swahili language newspapers including *Mwananchi*, *Habari Leo* and *The Citizen* were analyzed for actual lexical borrowing, especially in the news and the opinion sections where new terms and borrowed words are often used.
3. Academic Writings: Research papers and educational materials were also included in the analysis to see how loanwords are used formally especially in the fields of science, technology and social sciences.
4. Digital and Online Content: In this study, websites, blogs and social media discussions in Swahili were analyzed to identify the recent linguistic trends and the informal borrowing, especially from English due to globalization and the technological advancements.

The corpus was gathered to include samples of Swahili text from different areas of application, so loanwords from different contexts (such as formal, informal, technical, and everyday speech) were represented. The selection was also made on the availability of the sources and their ease of access, and the sources chosen were those that were easily accessible and had a large readership among Swahili speakers.

Dictionaries and Linguistic Databases

To supplement the corpus analysis, dictionaries and linguistic databases as *Kamusi ya Kiswahili Sanifu* were also used to trace the origins, phonological adaptation and morphological integration of loanwords. These resources gave historical context and standardized references for borrowed terms.

Semi-Structured Interviews

Twenty participants were purposively sampled according to their linguistic expertise and everyday use of Swahili loanwords. The sample included:

1. 10 native Swahili speakers (from urban and rural areas) to examine natural speech patterns in different social settings.
2. 5 linguists and educators to provide expert analysis on Swahili's morphological changes due to borrowing.

3. 5 professionals (journalists and writers) to explore loanword integration in written and spoken Swahili, particularly in media and literature.

Field Observations

In order to confirm the results from the corpus, natural speech recordings were conducted in a variety of contexts, such as markets, schools, television, and radio shows. The strategy ensured that the use of loan words, as identified, occurs in free speech.

Secondary Data Review

The results of the research study being conducted have been set within a larger context of the phenomenon of language contact, based on a review of research within the linguistic environment, concerning Swahili and other Bantu languages. In order to facilitate a well-rounded representation of Swahili loan words, the corpus has been selected. Both formal and informal, as well as spoken as opposed to written, modes have been considered, in order to calibrate the traditional as well as modern borrowing preferences. The results can be well supported, given the variation in sources, so that any findings derived from the research can be taken to be true language practice.

Data Analysis Techniques

The analysis follows a structured approach to gather sufficient evidence on borrowed words and their morphological processing.

Categorization: The borrowed words are classified according to the source language of the word (Arabic, English, Portuguese etc.) and the morphological processes used include assigning a noun class, forming the plural and using verbs.

Phonological Adaptation Analysis: The actual phonological adjustments made by Swahili when admitting new words are investigated with regard to vowel adjustments and consonant shifts.

Comparative Analysis: The borrowing patterns from the different donor languages are contrasted with the borrowing patterns in other Bantu languages, such as Luganda and Zulu.

Sociolinguistic Analysis: Sociolinguistic factors such as the status and the cultural power of the donor languages are investigated in order to determine their influence on the adoption and usage of loanwords.

Ethical Considerations

The participants were completely informed of the general purpose of the study, the particular procedures that were employed and the participants rights, before consent was obtained. Similarly, the participants' names were not disclosed as their participation was completely voluntary so the participant could withdraw at any time during the research without any adverse consequences being incurred.

Discussion

The findings show that the study of borrowing in Swahili is a rich set of relationships between the internal structures of the language's morphology on the one hand, and external linguistic inputs on the other hand. Borrowing has not only enriched the Swahili vocabulary with a large number of words, but has also affected its phonology, morphology and syntax, with different levels of accommodation. The analysis also reveals how Swahili is able to incorporate new borrowings and suffer the consequences of such borrowings for its native grammatical system. This section continues the discussion of the findings by looking at borrowing in more detail and using concrete examples to illustrate the rich and complex nature of these linguistic processes in section 4.

Phonological Adaptation

Table 1

Phonological Adaptations with Phonetic Structures

Original Word	Source Language	IPA (Original)	Adapted Swahili Word	IPA (Swahili)
qalam	Arabic	[ˈqa. lam]	*kalamu*	[kaˈla.mu]
hisāb	Arabic	[hiˈsaːb]	Hesabu	[heˈsa.bu]
Karosserie	German	[ka.ʁɔs.ʁiː]	*Makarasha*	[ma.ka.ra.ʃa]
school	English	[skuːl]	*Sikuli*	[siˈku.li]
computer	English	[kəmˈpjuːtə(r)]	*Kompyuta*	[kɔmˈpju.ta]
sim (SIM card)	English	[sɪm]	*Simu*	[si.mu]

The findings show that phonological adaptation is still a key strategy that Swahili uses in order to incorporate borrowed words. The language features a very simple syllable structure of consonant-vowel (CV) which means that many changes have to be made on words to make them fit the

native phonotactic rules. For instance, the Arabic word for *qalam* which means pen or writing tool is *kalamu*, *hisāb* which means mathematics or calculations is shortened to *hesabu*, *Karosserie* which is bodywork in German is *Makarasha* in Swahili, where a vowel is added at the end because Swahili is an open syllable language. In the same way, the English word school turns to *sikuli,* and computer is *kompyuta*. These adaptations happen through vowel insertion and syllable restructuring in order to avoid unallowable consonant clusters and to fulfill the Swahili phonotactic rules. However, a trend of less rigid adaptation is evident in more recent borrowings. Some of the examples are *simu:* phone, and *basi:* bus, which have minimal phonological modification keeping the syllable closed, [sim] and [bas], which was not previously frequent in Swahili. This shift can be attributed to globalization and the fact that Swahili speakers are now frequently exposed to the source languages especially English. For instance, *simu* is very similar to the phonetic structure of the English root, sim, which is itself derived from SIM card. The process of adopting borrowed words shows that phonological simplicity and semantic clarity are mutually reinforcing in Swahili, that is, Swahili only modifies foreign words slightly in order to make them easy to understand without changing their core meaning. This phonetic analysis, as shown in table 1, reveals how Swahili, through vowel insertion and syllable restructuring, adapts borrowed words in a way that is consistent with phonological rules but also semantically accurate. The tendency to keep the original structure in the recent borrowings is the result of changing language behaviour due to the globalization process.

Integration into the Noun Class System

Table 2

Phonological and Morphological Integration with IPA

Original Word	Source Language	IPA (Original)	Integrated Singular (Swahili)	IPA (Swahili Singular)	Integrated Plural (Swahili)	IPA (Swahili Plural)
madrasa	Arabic	[maˈdra.sa]	*Madrasa*	[maˈdra.sa]	*madarasa*	[ma. daˈra.sa]
sarir	Arabic	[saˈriːr]	*Kitanda*	[kiˈta.nda]	*vitanda*	[viˈta.nda]
safar	Arabic	[saˈfar]	*Safari*	[saˈfa.ri]	*safari*	[saˈfa.ri]

The findings indicate that the noun class system, a hallmark of Swahili's Bantu heritage, is key in integrating borrowed nouns into its morphology. Loanwords are assigned to particular noun classes according to their

semantic and phonological characteristics, with class prefixes denoting singular and plural. For instance, the Arabic derived *kitanda* (sleeping bed) follows the ki-/vi- prefix pattern, which gives the plural form *vitanda*. In the phonological level, *kitanda* [kiˈta.nda] and *vitanda* [viˈta.bu] are also consistent with the regular noun class system, where ki- is for the singular and vi- is for the plural. For instance, another Arabic derived term, *madrasa*, which means school, also integrates easily into the noun class system with minimal alteration. It is also further classified as having the ma- prefix for pluralization, giving *madarasa* for schools, with the singular form being madrasa [maˈdra.sa] and the plural form *madarasa* [ma. daˈra.sa]. These examples show how Swahili is capable of incorporating foreign lexicon into its morphological system in a way that is consistent with its grammatical structures.

Table 3

Phonological and Morphological Challenges with IPA

Original Word	Source Language	IPA (Original)	Integrated Singular (Swahili)	IPA (Swahili Singular)	Integrated Plural (Swahili)	IPA (Swahili Plural)
bus	English	/bʌs/	*basi*	[ba.si]	*basi*	[ba.si]
computer	English	/kəmˈpjuːtə (r)/	*kompyuta*	[kɔmˈpju.ta]	*kompyuta*	[kɔmˈpju.ta]
card	English	/kʌd/	*kadi*	[ka.di]	*kadi*	[ka.di]

The words which are borrowed from English, and some of them from Arabic are not fully integrated especially concerning the number of words. For instance, the English derived bus /bʌs/ is transformed as *basi* [ba.si]; card /kʌd/ is transformed as *kadi* [ka.di] in Swahili, and do such words not conform to the usual noun class system in forming the plural. Both the singular and plural are *basi* and kadi with no marked plural. For example, *kompyuta* [kɔmˈpju.ta] 'computer' is not fully integrated into the language and has no plural form that is consistent with the native system. This irregularity shows a major problem in loanword integration: Not all the terms are fully incorporated into the target language's noun class system. The results indicate however, that the partial integration of borrowed words manifest the tension between the systematic noun class system of Swahili and the irregularities which borrowing introduces. For example, both textbook and madrasa are easily classifiable according to their noun classes, but there are other words, such as *basi, tekinolojia, intaneti and kompyuta* which are integrated without plural markers. This means that some of the

loanwords are assigned to classes by phonological similarity rather than semantic relatedness resulting in morphological incoherency. It is clear how the Swahili language is able to borrow words easily while maintaining its grammatical structures. However, the irregularities in the integration of noun classes into borrowing reveal the existence of areas in which the traditional morphology is a challenge to the evolving language in a global world.

Borrowing in Verb Formation

Table 4

Phonological and Morphological Integration with IPA

Verb Root	Source Language	IPA (Original)	Integrated Swahili Verb	IPA (Swahili)	Notes
andika	Arabic	[anˈdi.ka]	*Kuandika*	[ku.aˈndi.ka]	Fully integrated with Swahili morphology.
install	English	[ɪnˈstɔːl]	*ku-instal*	[ku.inˈstal]	Hybrid form; retains English phonology.
format	English	[ˈfɔːmæt]	*ku-fomati*	[ku.foˈma.ti]	Partially adapted; aligns with CV pattern.
save	English	[sɛv]	*ku-save*	[kuˈsevu]	Fully integrated with Swahili morphology.
print	English	[prɪ'nt]	*ku-print*	[kuˈprint]	Hybrid form; retains English phonology.

The findings show that the effect of borrowing extends further than just the lexical level in Swahili where foreign roots are incorporated into native verb structures with the help of Swahili prefixes. The Arabic root *andika* 'to write' is a complete member of Swahili verbal morphology. This verb has been incorporated to follow the rules of the original language, that is, using prefixes like *ku-* for the infinitive form and other prefixes for forming different tenses, such as *naandika* for I am writing and *uliandika* for you wrote. Phonologically, *andika* [a.nˈdi.ka] is fully incorporated into the Swahili Consonant-Vowel (CV) structure. *Ku-Instal* and *ku-fomati*, which are borrowed from English, are partly integrated. These hybrid forms consist of the borrowed root and Swahili prefixes and suffixes, which retain the phonological structure of the source language and agree with the Swahili

agglutinative morphology. For instance, *ku-instal* [ku.inˈstal] has the Swahili infinitive prefix *ku-* but the English root is hardly altered. The same applies to *ku-fomati* [ku.foˈma.ti], which has incorporated the English root 'format' while keeping the Swahili grammatical markers.

Furthermore, the findings show that the effects of borrowing extend significantly to Swahili's verbal system, that is, the use of foreign roots in native verb structures with Swahili prefixes. The Arabic root *andika* 'to write' is a typical example of a fully integrated verb in Swahili verbal morphology. This verb has been incorporated to follow the traditional patterns, with ku- for infinitive forms and other prefixes for forming the conjugated forms such as *naandika* 'I am writing' and *uliandika* 'you wrote'. Other Arabic derived verbs which are fully incorporated into Swahili include *omba* which is from Arabic *amr*, (to request or command), as in *anaomba msaada* (he/she is requesting help), and *hesabu* from Arabic *hisab* (to calculate) as in *unapiga hesabu* (you are calculating). Phonetically, *andika* [a.nˈdi.ka], *omba* [ˈo.mba], and *hesabu* [heˈsa.bu] are fully incorporated into Swahili's CV structure. By contrast, *ku-instal* and *ku-fomati*, which are verbs derived from English, are only partially appropriate. These hybrid forms are borrowed roots combined with Swahili prefixes that maintain the phonological structure of the source language but are adapted to fit the agglutinative structure of Swahili. For instance, *ku-instal* [ku.inˈstal] uses the Swahili prefix for the infinitive *ku-* but keeps the root of the English language with very little alteration. Similarly, *ku-fomati* [ku.foˈma.ti] brings in the root 'format' from English while retaining the Swahili grammatical markers; like in the *ninafomati diski* 'I am formatting the disk'. Other examples of partial integration include *ku-print* 'to print' as in *ninaenda ku-print ripoti* 'I am going to print the report' and *ku-save* 'to save' as in *usisahau ku-save kazi yako* 'don't forget to save your work'. These examples show how verbs that are borrowed from Arabic and English enrich Swahili's verbal system and to what extent they retain phonological and morphological characteristics of the source language.

Table 5

Examples of Borrowed Verbs with Contextual Usage

Verb	Context of Usage	Example Sentence	IPA of Sentence
kuandika	General writing tasks	*Naandika barua.* 'I am writing a letter'.	[na.aˈndi.ka.baˈru.a]
ku-instal	Technology	*Unapaswa ku-instal*	[u.naˈpa.swa.ku.inˈstal.pro

Verb	Context of Usage	Example Sentence	IPA of Sentence
	(software setup)	*programu hii.* 'You need to install this program'.	ˈgra.mu.hiˈi]
ku-fomati	Technology (file formatting)	*Nimefomati kompyuta yangu.* 'I have formatted my computer'.	[ni.me.foˈma.ti. kɔmˈpju. ta.jaŋ.gu]
ku-	Secretarial services	Nimeprint vibaya 'I have printed wrong'	[ni.me.pri'nt.vi.ba.ya]

This shows how flexible the Swahili language is in adopting foreign roots while such new verbs as *ku-instal* and *ku-fomati* are not conventional. Most Swahili verbs are basic, that is, they are made up of roots which are Bantu and are conjugated to show time, completeness or absence of an event. The new hybrid verbs are those that contain roots which are not Bantu but Swahili prefixes combined with phonological forms that are borrowed from another language. This has many implications concerning the sustainability of the grammars of Bantu languages. This indicates the growing impact of English, particularly in tech and science where Swahili alternatives are limited. For example, the phrase *ku-instal* is quite common in tech where a Swahili phrase, *kusakinisha*, apparently has not gained much popularity or is not utilized at all in the modern language.

The results also bring to light the fact that partial assimilation in English verbs is a distinct display of the ever-changing nature of the verbal morphology of Swahili as it responds to modern communication. Nevertheless, the greater use of the hybrid verbs brings along some irregularities, which are quite rare within the context of the agglutinative model. This display indicates a possible shift within the Swahili verbal system, whereby novel morphs are generated to substitute those eliminated because of the shift within the vocabulary. Even though the language's vocabulary has expanded to include the novel vocabulary, it indicates a display of the tension within the language to preserve the grammatical framework as it undergoes change. The fact that Swahili has the flexibility to adopt roots from other languages is an indication of a living language, but the increasing use of the hybrids requires a close examination of their impact on the heart of the language. It can, therefore, be concluded that Swahili, as the verbal morphology of a global language, can be observed as a display of retaining traditional trends while being open to foreign elements.

Sociolinguistic Influences

Table 6

Phonological and Morphological Integration with IPA

Loanword	Source Language	IPA (Original)	Integrated Swahili Form	IPA (Swahili)	Integration Notes
salaam	Arabic	[saˈlaːm]	*salamu*	[saˈla.mu]	Full integration with a CV adaptation.
du'aa	Arabic	[duːʕaːʔ]	*Dua*	[du.a]	Minimal adaptation for phonological compatibility.
madrasah	Arabic	[maˈdra.sa]	*madrasa*	[maˈdra.sa]	Fully aligned with Swahili phonological rules.
computer	English	[kəmˈpjuːtə(r)]	*kompyuta*	[kɔmˈpju.ta]	Partially adapted; retains English-like phonology.
internet	English	[ˈɪn. tə.net]	*internet*	[iˈn.ta.net]	Minimal adaptation; globally recognized term.
software	English	[ˈsɒft.weə(r)]	*software*	[sɔftˈwe.re]	Direct borrowing with phonological retention.

The findings show that the sociolinguistic context of borrowing is a key factor in determining how loanwords are processed in Swahili. Arabic as a religious and historical language has left a great mark on the lexicon of Swahili especially in the areas of knowledge, religion and administration. For instance, the word *salamu* which means greetings in Swahili is [saˈla.mu] while the Arabic original is [saˈlaːm]. Other examples include dua for prayer [du.a] which is from Arabic *du'aa* [duːʕaːʔ] and madrasa which means school [maˈdra.sa] and is from Arabic madrasah [maˈdra.sa]. These words are easily fitable into the Swahili morphological system, especially if they have been phonologically adjusted to something like a CV structure and noun class system. For instance, English as the global

language has also brought in a number of technical, scientific and cultural words and phrases in Swahili. Some new words are *kompyuta* for computer [kɔmˈpju.ta], internet [ˌiˈn.ta.net] and software [sɔftˈwe.re] which show the progress and the globalization of Swahili speakers. Some of these terms may keep some phonological and morphological features of their original international forms. For instance, *kompyuta* is closer in phonetic level to the English word computer [kəmˈpjuːtə(r)] with some alterations to suit the Swahili phonological system.

Table 7

Examples of Sociolinguistic Integration with Contextual Usage

Loanword	Context of Usage	Example Sentence	IPA of Sentence
salamu	Everyday greetings	*Natoa salamu kwa kila mmoja.* 'I send greetings to everyone'.	[naˈto.a.saˈla.mu.kwa.kiˈla.mo .nja]
madrasa	Religious education	*Watoto wanakwenda madrasa kila Jumamosi.* 'Children go to madrasa every Saturday'.	[waˈto. to.wa.naˈkwen. da.maˈdra.sa]
kompyuta	Technology	*Ninatumia kompyuta yangu kazini.* 'I use my computer at work'.	[ni.na. tuˈmi.a. kɔmˈpju. ta.jaŋ.gu. kaˈzi.ni]
internet	Digital communication	*Internet imekuwa muhimu sana leo.* 'The internet has become very important today'.	[iˈn.ta.net.i.me.kuˈwa.muˈhi.m u.sa.na.le.o]

The findings also show that the extent of integration of loanwords is determined by the sociolinguistic prestige of the source language and its role in world communication. Thus, among the languages, Arabic as the religious and scholarly language of East Africa is the source of many words that are easily borrowed in Swahili. For instance, *salamu* and *dua* are used both in religious and in everyday life, which proves the viability of Arabic as the cultural and linguistic partner of Swahili. On the other hand, English, which is the global language in science, technology and modern

communication, has brought in a number of recent borrowings. Some words like internet and software are easily borrowed without much phonological changes because they are internationally known. This is different from the older Arabic borrowings which have been more fully incorporated into the Swahili morphological system. The global usage of English makes it hard to avoid using English phonological elements when using such words in local languages, thus showing the language's prestige and relevance in the present-day societies of Swahili speakers.

Additionally, the results of the study reveal that the process of borrowing words from Arabic and English is still in Swahili language and shows the changing cultural situation in East Africa. The study also shows that Arabism is a part of the Swahili lexis which has been absorbed from the Swahili people over the years of contact with the Arab culture and Arab people. On the other hand, English borrowings are said to be recent and their source can be ascribed to globalization and technological development. The absence of Swahili translations of the English words internet and software demonstrates how much international linguistic trends are influencing the Swahili speaking countries. Nevertheless, the coexistence of fully borrowed Arabic words and partially borrowed English words reveals a distinction in the morphological level of Swahili language. This dichotomy poses a threat to the future of Swahili's linguistic personality and grammatical integrity. However, Swahili still shows its capacity to respond to the challenges of the modern world and at the same time maintain its autonomy. The Arab and English influences on Swahili serve to illustrate the dual role of Swahili as a local and international language, and thereby to trace the history of Swahili and its developing role in oral and written communication.

Challenges and Structural Transformations

Table 8

Phonological and Morphological Challenges with IPA

Borrowed Element	Source Language	IPA (Original)	Integrated Swahili Form	IPA (Swahili)	Notes on Integration
Bus	English	[bʌs]	*basi*	[ba.si]	No plural distinction, irregular integration.
computer	English	[kəmˈpjuːtə(r)]	*kompyuta*	[kɔmˈpju.ta]	Retains English-like

Borrowed Element	Source Language	IPA (Original)	Integrated Swahili Form	IPA (Swahili)	Notes on Integration
download	English	[ˈdaʊnˌloʊd]	*ku-download*	[ku.daʊnˈloːd]	phonology, no plural. Hybrid verb, retains English root.
upgrade	English	[ˈʌpˌgreɪd]	*ku-upgrade*	[ku.ʌpˈgreɪd]	Hybrid verb, partially adapted.

The findings show that the borrowing process poses several structural problems to the morphology of Swahili and the interplay between the native grammatical systems and the borrowed elements. A major problem is the irregular pluralization of borrowed nouns, for example, *basi* [ba.si] 'bus', which does not change its form in the singular and plural. This disrupts the systematicity of Swahili's noun class system which uses prefixes such as m-/wa- or ki-/vi- to distinguish between the singular and plural numbers. For instance, borrowed words like *kompyuta* [kɔmˈpju.ta] 'computer' cannot be easily pluralized as there are no native rules on how to do so, showing some assimilation to the morphological system. Another problem is the appearance of semi-foreign verbs that are not consistent with the standard Swahili verb construction. Some new verbs include *ku-download* [ku.daʊnˈloːd] 'to download' and *ku-upgrade* [ku.ʌpˈgreɪd] 'to upgrade' which are prefixed with Swahili prefixes but the root is English. Although these forms are used frequently in the present-day conversation, they are not typical of the agglutinative structure of native Swahili verbs like *ku-soma* [ku.so.ma] 'to read' or *ku-pika* [ku.pi.ka] 'to cook'. These hybrid forms reveal a change in Swahili's verbal morphology specifically to include technical and scientific vocabularies borrowed from world languages especially English.

Table 9

Morphological Challenges in Contextual Usage

Word/Form	Context of Usage	Example Sentence	IPA of Sentence
basi	Transportation	*Basi limechelewa kufika kituoni.* 'The bus is late arriving at the station'.	[ba.si.li.me.tʃe.le.wa.ku.fi.ka.ki.tu.o.ni]
ku-download	Technology (software)	*Ninajaribu ku-download faili kubwa.*	[ni.na.ja.ri.bu.ku.daʊnˈloːd.fa.i.li.ku.bwa]

Word/Form	Context of Usage	Example Sentence	IPA of Sentence
ku-upgrade	Technology (devices)	'I am trying to download a large file'. *Unapaswa ku-upgrade programu yako.* 'You need to upgrade your program'.	[u.na.pa.swa.ku.ʌpˈgreɪd.proˈgra.mu.ja.ko]

Additionally, the appearance of irregular noun pluralization and hybrid verbs indicates the gradual change in the grammatical system of Swahili. The use of loanwords, especially from English, introduces the structures that are not straightforward with respect to the morphological system of Swahili. For instance, the absence of plural prefixes in nouns such as *basi* and *kompyuta* is in sharp contrast with the native forms like *mtoto/watoto* [mˈto.to]/[waˈto.to] 'child/children'. In the same way, the partial hybrid verbs for example *ku-download* are also quite different from the native verb construction which has Bantu roots. However, despite these challenges, Swahili is a very much lively and flexible language.

The processes such as vowel insertion, e.g. in *kompyuta* [kɔmˈpju.ta], and the use of prefixes such as *ku-* for infinitives, e.g. in *ku-download*, prove that Swahili is quite flexible when it comes to incorporating new words while retaining some core morphological features. Semantic alignment, where the borrowed terms have the same meaning as the source language, also shows the dynamics of the language. Although borrowed elements make irregularities, they also demonstrate the capability of Swahili to change and fulfil the present-day communication needs. Swahili language is capable of incorporating global influences as well as conserving initial structures of the language. For example, while hybrid verbs are on the rise, the native verbs remain the most popular in the everyday conversation to make sure that the fundamentals of the grammatical system are kept. Swahili's capability to adapt is an indication of the language's potential to be a durable means of communication in a global society, which combines traditional linguistic habits with the requirements of the present moment. The ability to preserve and adapt is the key to the position of Swahili as a language which is not only connected with Bantu culture but also develops itself in a modern linguistic environment. Therefore, the change in its morphology is not a manifestation of linguistic disturbance but rather a proof of its continuative value in a changing sociolinguistic environment.

Semantic alignment, where the borrowed terms have the same meaning as the source language, also shows the dynamics of the language. Although borrowed elements make irregularities, they also demonstrate the capability of Swahili to change and fulfil the present-day communication needs. Swahili language is capable of incorporating global influences as well as conserving initial structures of the language. For example, while hybrid verbs are on the rise, the native verbs remain the most popular in the everyday conversation to make sure that the fundamentals of the grammatical system are kept.

Balancing Language Identity and Evolution

The data illustrates a nuanced consideration of both maintaining the language's Swahili identity while being open to much-needed adaptation. While some argue too much borrowing leads to a breakdown in grammatical structure thereby depriving a language of autochthony status (Robinson, 2024), it is clear from this analysis that a position supporting Myers-Scotton's (1993) views on the matter, as well as those of Amani (2024), is correct. The fact is, borrowing can be a healthy, enriching thing for a language, making it more flexible for future, practical use. Rather than undermining Swahili's grammatical foundation, it merely allows it to express itself more, thereby maintaining structure. The retention of noun-class morphology and verbal form despite radical borrowing indicates Swahili's resilience.

The achievement of this synchronization between continuity and change ensures Swahili to remain a language that is both culturally embedded within a local context, as well as a means of international communication. Its procedure, actually, is exemplar in being distinct from Dr. Tariq Rehman's (2015) approach for Pakistani English, as borrowing leads to a form of indigenization, where the result indexes a heritage background as much as it indexes a notion of modern-day identity.

Comparative Insights

Quantitatively, the level of permissiveness of the Swahili, Luganda, and Zulu languages in relation to the morphophonical adaptation of borrowed words indicates Swahili as 40% more tolerant than Luganda and Zulu. This is confirmed in this research study based on the research conducted by Sinnemäki and Di Garbo (2018). In respect of Luganda, the language adheres strictly to a vocalic harmony, while Zulu sticks to the prefix

markers, while Swahili is tolerant to a point of selecting adaptation, as depicted in the word school being pronounced as *sikuli* instead of comprehensive class markers. It depicts the Swahili language as a lingua franca from the ancient period.

Supporting previous research (Sinnemäki & Di Garbo, 2018), these trends underscore morphological adaptation being subject to both sociolinguistic environment as well as to linguistic background. Openness of Swahili permits rapid lexical innovation for global communication while introducing morphological irregularities.

Table 10

Phonological and Morphological Integration Across Languages

Loanword	Source Language	Bantu Language	Integrated Form	IPA of Integrated Form	Notes on Adaptation
Train	English	Luganda	*ettuleeni*	[ɛtːuˈleː.ni]	Preserves vowel harmony; strict noun class use.
School	English	Zulu	*isikole*	[isiˈko.le]	Fully aligns with noun class system (*isi-*).
School	English	Swahili	*sikuli*	[siˈku.li]	Flexible adaptation with minimal prefixation.
kitāb (book)	Arabic	Swahili	*kitabu*	[kiˈta.bu]	Fully integrated with Swahili noun class system.

The findings show that Luganda and Zulu are more strict in maintaining the traditional morphological word structure that forces loanwords to conform to the noun class systems of the two languages. For example, Luganda's *ettuleeni* was created using a typical prefix and double consonant of a native word. This is because Swahili has borrowed words freely and often partially, for instance, using *sikuli* for school. Swahili has a special

history of language contact with a number of languages which has made it develop through a rather lenient attitude towards lending words. Like Luganda, other languages also catalyze vowel harmony in order to incorporate foreign elements into their systems for instance changing train to *ettuleeni*. This process is important in maintaining phonological faithfulness to native words. Likewise, Zulu also changes loanwords to conform to its phonotactic rules and prefers open syllables and typical noun class markers, for instance, *isikole*. This is unlike Swahili which has a less strict phonological rule on new words, meaning that *basi* 'bus' can be used as both singular and plural. This is so because Swahili is a commercial language and has come into contact with Arabic and English for many years. This has resulted in the development of a vocabulary that has a large number of loan words like internet and software with minimal or no phonological or morphological changes. Luganda and Zulu have less extent of borrowing and more stringent mechanisms for integrating the borrowed words into the two languages, since they have more restricted sociolinguistic roles as they are home languages.

Table 11

Comparative Examples with IPA

Word/Form	Language	Context of Usage	Example Sentence	IPA of Sentence
Ettuleeni	Luganda	Transportation	*Abantu bayingira ettuleeni.* 'People are boarding the train'.	[aˈban. tu.baˈyiŋ. gi.ra. ɛtːuˈleː.ni]
Isikole	Zulu	Education	*Ngiyafunda esikoleni.* 'I study at school'.	[ŋi.jaˈfun. da.e.siˈko. le.ni]
Sikuli	Swahili	Education	*Watoto wanakwenda sikuli.* 'Children are going to school'.	[waˈto. to.wa.naˈkwen. da.siˈku.li]

The findings show that Swahili's borrowing pattern is relatively free, which makes the language relatively open to linguistic influences from outside. This is inconsistent with the more strict morphological systems of

Luganda and Zulu which are more phonologically and structurally driven. This paper shows that Swahili has been a historical lingua franca and has come into contact with Arabic, English and other global languages, which have rendered it necessary to have a more liberal loanword strategy to grow the lexicon. However, flexibility also results in form irregularities such as irregular plurals and partially integrated hybrid forms. Although Luganda and Zulu are more consistent on their own, Swahili's flexibility makes it useful in a rapidly globalizing world. The comparison of the treatment of loanwords across these languages shows the role of linguistic heritage, sociolinguistic context, and external influences in the morphology of Bantu languages.

Conclusion

The study shows the importance of borrowing in the development of the morphological structures of the Swahili language up to the level of phonological adaptation, noun class integration and verb formation. These processes demonstrate how the language is capable of responding to the linguistic and cultural changes while fighting through the irregular and hybrid forms. The sociolinguistic factors that trigger borrowing, particularly the prestige of the donor languages like Arabic and English, also further support Swahili's changing identity as a live and globally interacting language. Ultimately, Swahili's encounter with borrowing offers a rich case study of language contact and change in a multilingual context, as well as a compelling example of how linguistic adaptation and cultural exchange are interwoven.

Conflict of Interest

The authors of the manuscript have no financial or non-financial conflict of interest in the subject matter or materials discussed in this manuscript.

Data Availability Statement

Data supporting the findings of this study will be made available by the corresponding author upon request.

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