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Digital Transformation of Islamic Financial Institutions: Opportunities and Challenges in Reaching *Unbanked* Communities

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ABSTRACT

Digital transformation has become a major driver in financial services innovation, including in Islamic financial institutions. Amid the increasing need for financial inclusion, digitalization presents a great opportunity for Islamic financial institutions to expand the reach of their services, especially to unbanked segments of society, namely individuals or groups that do not have formal financial services. This study aims to explore the dynamics of digital transformation in Islamic financial institutions, by highlighting the potential and challenges faced in accessing and serving the unbanked community. The type of qualitative research is used using a literature review approach and descriptive analysis of various literature that supports the research. The results of the analysis show that digitalization through Islamic mobile banking, Islamic fintech platforms, and the use of big data is able to reduce geographical barriers, transaction costs, and increase budget efficiency. However, the main challenges faced by the community itself range from literacy, understanding, uneven technological infrastructure, and lack of public trust. With the right strategy, digital transformation not only strengthens the competitiveness of Islamic financial institutions, but also becomes an effective solution in reaching and deceiving unbanked communities.

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Keywords:
Digital transformation, Islamic finance, and Unbanked

Introduction

The development of the current era brings various changes in social structures and fundamental changes in understanding and approaches related to aspects of life, including the financial system. In the digital era, technology continues to make changes and developments, even countries such as China and Japan are already in industry 5.0. *Society 5.0* is a human-centered society technology concept that collaborates with technological systems to solve social problems integrated with the virtual and real world, (Qothrunnada, 2023; Society et al., 2022) .

The Islamic financial industry is one of the financial institutions that has received a real impact on the presence of the current digital era. Islamic banking is everything that concerns Islamic banks and Islamic business units, and includes institutions, business activities, as well as ways and processes in carrying out their business activities. The purpose of the presence of Islamic banking according to Kazarisn in his book entitled *"Hanbook of Islamic Banking"* in 1993 is, as a financial facility that provides *financial instruments* in accordance with sharia provisions, (Ilmiah et al., 2021) . Islamic banking itself has a strategic role in the economic development of the people. The role of Islamic financial institutions to maximize existing opportunities certainly provides a new color to the Indonesian economy. Empirical studies show that countries with developed Islamic financial sectors tend to have higher economic growth rates, for example a study conducted by, (Demirgüç-kunt, 2010) found that countries with larger Islamic financial sectors tend to be more resilient to the global financial crisis. Islamic finance also provides inclusive access to all aspects of society to use Islamic financial services including products such as zakat, infaq, and waqaf. Indonesia, with the largest Muslim population in the world, certainly has a similar opportunity to face the challenges of a global economy that sometimes experiences erratic crises.

Digital transformation is not just a temporary trend, but a fundamental action to answer the demands of a market that continues to evolve and increase the complexity of the global financial ecosystem. One important aspect of digital transformation in Islamic banking is the ability to provide more inclusive and sustainable financial services, (Hakim, 2024) . With the use of digital technology, LKS can overcome geographical and infrastructure barriers that often become obstacles for disadvantaged communities to access Islamic financial facilities. Digital transformation is not only realized on a small scale, but also broadly and rapidly, covering various aspects of banking operations and services. Islamic financial institutions (LKS) certainly do not remain silent seeing the current development conditions, (Alfarizi et al., 2023; Hakim, 2024) . Services such as e-walet, Byond (which used to be e-mobile BSI), and various other digital platforms are concrete actions taken by LKS in digital transformation in the midst of competition for conventional banking services. According to data from (BSI, 2024) that until September 2024, ZISWAF transactions on BSI Mobile had reached Rp96 billion, growing 31% compared to the previous year. This development is a positive movement in facing market competition. Through digital platforms, Islamic finance can reach a wider market globally. (Loo & Loo, 2018) In his research says that the use of digital will reduce traditional activities in finance, increase operational efficiency and consumer-based services that are able to encourage transparency in business management in the financial industry. Likewise, the opinion of (Lee & Shin, 2018) that the use of technology in the field of Islamic financial services will increase the growth of the financial services industry and reduce the possibility of financial crises.

However, amid the opportunities and significant changes that exist, there are various fundamental problems in Islamic financial institutions. Problems with uneven technological infrastructure, low levels of digital financial literacy, limited innovation of technology-based Islamic products, to regulatory issues and compliance with sharia principles are real obstacles that need to be overcome. The results of SNLIK in 2024 showed that the financial literacy index of the Indonesian population was 65.43 percent, while the financial inclusion index was 75.02 percent. The 2024 National Survey on Financial Literacy and Inclusion (SNLIK) also measured the level of Islamic financial literacy and inclusion. The results obtained show that the Islamic financial literacy index of the Indonesian population is 39.11 percent. Meanwhile, the Islamic financial inclusion index is 12.88 percent (OJK, 2024) . Remote areas that are still thick with traditional cultural influences are also one of the problems of Islamic financial development today. One of the phenomena that exists is the *unbanked*, which is a group of people who have not been touched by financial services, indicating that there is still a gap between the availability of services and the needs of the community. The number of public facilities such as damaged roads and internet services is also a factor that causes many people to be untouched by financial services, especially Islamic finance, (Hidayah et al., 2024; Restika & Sonita, 2023) . In addition, the level of public trust in the existence of Islamic financial institutions is also still low so that people tend to save or save their money traditionally.

Through this research, it is expected to contribute to the policies that will be provided by the government for the dynamics that occur related to the *unbanked.* This study will also find a comprehensive picture of the digital transformation of the Islamic financial digital sector and concrete steps to be taken to optimize the potential of technology in reaching the *unbanked* in a fair, inclusive, and sharia-compliant manner.

Literature Review

Digital Transformation

Digital transformation is a process of changing the way of working through the use of information technology to improve operational efficiency and effectiveness. This concept has been implemented in various sectors, such as e-learning in education, e-banking in banking services, e-business in the business world, and e-government in the government sector. The essence of digital transformation is to accelerate performance, optimize processes, and develop databases as decision-making support tools. In the context of financial institutions, including Islamic financial institutions, digital transformation is seen as a long-term investment to improve service efficiency and expand consumer reach. According to Qothrunnada (2023) that digitalization allows manual systems to be transformed into automated ones, while still maintaining compliance with sharia principles. However, their approach is still descriptive and has not highlighted in depth how this transformation impacts marginalized groups such as the unbanked (Qothrunnada et al., 2023)

However, for digital transformation to be optimal, a comprehensive strategy is needed. This includes increasing digital financial literacy, equalizing technological infrastructure, and strengthening regulations and supervision in accordance with sharia values. The strategy is the basis for ensuring sustainability, security, and sharia compliance in the operations of digital-based Islamic financial institutions

(Sudarmanto et al., 2024) . Meanwhile, according to (Husni Shabri, 2022) emphasizes the potential of digital transformation in expanding access to Islamic finance, especially through mobile banking and digital wallets. However, Shabri has not provided a critical analysis of structural barriers such as low financial literacy and unequal access to infrastructure. In other words, existing studies still highlight the potential benefits rather than examining the barriers empirically or conceptually. This gap leaves room for further research that integrates technological approaches with social and public policy perspectives.

Sharia Financial Institutions

According to the Big Indonesian Dictionary, the definition of a Financial Institution is a body in the financial sector whose job is to attract money and distribute it to the public. In Law Number 14 of 1967 concerning Banking Principles, both Conventional and Sharia, also discusses the same thing, namely Financial Institutions are "all bodies that carry out activities in the financial sector by withdrawing money from the public and channeling the money back to the public" (Nst & Marliyah, 2025) . Islamic financial institutions (LKS) are entities that organize financial activities with reference to Islamic principles, such as justice, openness, and avoidance of usury practices, speculation (maisir), and uncertainty (gharar). LKS does not only focus on achieving financial benefits, but also carries out a social role to balance economic goals with sharia values (Sulistyowati, 2021) .

In practice, Sharia Financial Institutions (LKS) include various types of institutions, such as Islamic banks, Islamic cooperatives, Islamic insurance, Islamic pawnshops, and sharia-based microfinance institutions. The role of LKS is not only limited as a financial intermediary, but also as an agent of social change that supports economic equality and empowerment of the people. Along with the rapid development of technology and digitalization, LKS is required to adapt in order to reach people who have not been well served, especially unbanked groups who live in remote areas or who face limited access to formal financial services. To meet these demands, LKS needs to develop innovations in terms of financial products and services that are more inclusive and technology-based (Nurjanah & Purnama, 2023). This is in line with research from Amarta (2024) which explains that digitalization in the Islamic financial sector can help expand the reach of services, increase efficiency, and facilitate access for people who were previously hampered by geographical or infrastructure limitations. One example of the application of technology that has been widely carried out is the development of Islamic mobile banking applications, sharia-based digital payment systems, and the provision of microfinance services online (Amarta, 2024) .

A criticism of this literature is the lack of empirical evaluation of the effectiveness of digital innovations implemented by LKS, such as Islamic mobile banking and digital payment systems. There are not many studies that compare the effectiveness of digital service models, or analyze the success of LKS in regions with different socio-cultural characteristics. This indicates a gap in our understanding of the extent to which technological adaptation actually impacts Islamic financial inclusion.

Unbanked

People who are still far from financial products or even do not have financial products such as ATMs, financial services, or digital financial products at all are called *unbanked* people. Indonesia itself is classified as a country with the fourth largest level of *unbanked* people in the world according to word bank data with a total of around 97.74 million people or 48% of Indonesia's adult population, (Pressrelease.id, 2024) . In addition, there are also Indonesian people who are classified as underbunked people who have access to banking but do not use it optimally so that it also raises people who are included in the unbanked community. This is caused by several factors including the cultural factors of Indonesian society which is still thick with traditional culture which is difficult to accept digitalization, besides that the understanding of Indonesian people is still lacking with Islamic banking so that it is also a major factor that hinders the increase in Islamic financial inclusion.

The gap between the literature highlighting the potential of technology and the lack of field-based research on the effectiveness of digital service implementation shows that there is still a research gap. Future research needs to highlight the interaction between technology, local culture, and institutional strategies in an effort to increase Islamic financial inclusion in a sustainable manner.

Research Method

This research uses descriptive qualitative research with a *library research* approach to analyze the digital transformation of Islamic financial institutions (LKS) and the opportunities and challenges faced in reaching the *sharia unbanked* community. Qualitative research is a type of research that utilizes a naturalist approach to seek and understand phenomena in a particular context. One of the qualitative research that is quite widely used by researchers is literature study research or literature-based research. Literature-based research is part of a research proposal whose data is collected through information sources in the form of books, articles, journals, online media and other documents, (Saefullah, 2024) . This approach was chosen because this research aims to describe phenomena related to the digitization of Islamic financial services and analyze relevant literature, without being limited to a particular geographical location.

Data analysis was conducted thematically, beginning with reading and identifying important information from the literature. Next, a coding process was carried out, which involved marking sections of text that contained key themes such as financial service digitization, sharia inclusion, access challenges, and regulatory support. These codes were then categorized into broad themes, such as "digitization opportunities" and "inclusion barriers."

The results of the categorization were analyzed narratively to develop a comprehensive understanding of the issues under study. Data validity was strengthened through source triangulation, by comparing various literature from different contexts and perspectives. This approach provides a comprehensive picture of the opportunities and challenges of LKS digitalization in reaching communities that are not yet accessed by financial services.

Results and Discussion

Digitalization Of Islamic Finance And In Indonesia

The development of Islamic finance in Indonesia began in 1992 with the establishment of one of the Islamic banks, Bank Muamalat. Two years later, in 1994, the first Islamic insurance company in Indonesia was established, PT Asuransi Takaful Keluarga (ATK) and in 1997 the first Islamic mutual fund in Indonesia was issued. Islamic finance is more synonymous with banking than its own Islamic financial products in Indonesia such as Islamic insurance, Islamic pawnshops, or Islamic stocks, (Ely Eka Saputri et al., 2024; Husni Shabri, 2022) . Since then the development of Islamic finance in Indonesia has increased very rapidly, especially in the field of Islamic banking. Currently, there are 33 Islamic banks in Indonesia consisting of 14 Islamic commercial banks (BUS) and 19 Islamic business units (UUS). In addition, there are 173 Islamic Rural Banks (BPRS), so that in total there are 209 Islamic Banking products in Indonesia (Nurfalah & Rusydiana, 2019) .

Along with the times, Islamic banking products have also undergone a transformation to a digital system. The transformation carried out by Islamic banking benefits from the use of technology in Indonesia which is also increasing rapidly, according to the Indonesian Internet Service Providers Association that internet users in Indonesia in 2024 touched 221,563,479 million people from a population of around 278,696,200 million Indonesians. From this survey, Indonesia's internet penetration rate touched 79.5%, (apjii.or.id, 2024) . The utilization of technology is also utilized by various financial services companies to encourage inclusion in the field of Islamic banking. With the existence of technology, digital media is created that supports transaction activities. *Platforms* such as *virtual money* and *electronic* money (*e-money*) are examples of payment instruments that were born thanks to digitalization today.

Digitalization of Islamic finance not only encourages efficiency but also expands access to finance, especially for MSME players and the *unbanked*. One of the key innovations is the Quick Response Code Indonesian Standard (QRIS), a digital payment standard adopted by Islamic banking in Indonesia. QRIS facilitates non-cash transactions that comply with sharia principles (for example, avoiding *usury* and speculation), while reaching groups that previously had limited access to conventional banking (Setiawan & Mahyuni, 2020) . According to a report from Bank Muamalat Indonesia, more than 13,000 merchants used QRIS in September 2024 (up 49% from the previous year). This growth shows the high interest of Islamic MSMEs in digital instruments that meet *halal* principles*.* Bank Syariah Indonesia (BSI) also experienced a 30% increase in QRIS transaction volume during PON XXI, with an average value of Rp1.27 billion and the number of transactions 9,667 times, (bankmuamalat.co.id, 2024) . The development of digital use in society is certainly a great opportunity in reducing *unbanked* people in Indonesia.

Although the potential of digitalization is very large, the reality on the ground shows that not all people can enjoy its benefits equally. Indonesia still faces major challenges in terms of financial inclusion. The latest data shows that Indonesia is the country with the fourth largest unbanked population in the world, with a percentage reaching 48% or around 97.74 million people. They do not use digital banking services, even for basic facilities such as ATMs (pasardana.id, 2024) . This digital access gap is largely caused by limited infrastructure in remote areas, such as internet connections, technological devices, and Islamic banking facilities. In addition, the low level of financial literacy and digital literacy is also a major obstacle.

However, the focus of the study is still general and has not specifically touched on the dynamics in areas with low levels of digital affordability. In fact, to deeply understand the challenges of inclusion, a contextual approach is needed that considers differences between regions in terms of infrastructure, culture, and human resource capacity. Thus, the integration of spatial and social analysis is a strategic step to clarify the extent to which digitalization is truly able to reach people who have not been touched by Islamic banking services.

Opportunities For Utilization Of Digital Technology By Islamic Financial Institutions For The *Unbanked* Community

The utilization of digital technology is a great opportunity for Sharia Financial Institutions (LKS) to reach the *unbanked* community, namely groups that have not been served by the conventional banking system. *Unbanked* communities are generally located in remote areas with limited access to formal financial institutions. Digital technology comes as an effective solution to bridge this gap through Islamic financial services that are easily accessible and in accordance with Islamic principles. LKS can now utilize mobile applications to reach more customers. Through the application, opening a sharia savings account can be done online without having to come to the branch office, because the identity verification process can now be completed digitally through the *electronic Know Your Customer* (e-KYC) system.

In addition, the *unbanked* also have access to microfinance through a sharia-based digital platform. This financing does not use interest and still refers to sharia contracts. Islamic fintech plays an important role in expanding financial inclusion. One of them is through a *peer-to-peer* (P2P) lending scheme that allows micro business funding to be done collectively without usury (Azfat et al., 2024) . This mutual cooperation model is further strengthened by the presence of digital waqf *crowdfunding* that enables the construction of social and productive facilities in a participatory manner through the waqf application (Wahyudi et al., 2025) . Digitalization also opens access to instant, easy, and transparent payment of zakat, infaq, and sadaqah through sharia platforms. All transactions are managed with the principle of accountability and can be monitored in real-time. In addition to financial services, digital technology is also utilized in improving Islamic financial literacy. Various educational contents such as videos, podcasts, and articles can be accessed through interactive applications anytime and anywhere. People can also learn about sharia contracts online, even through more fun media such as educational *games*.

Cooperation between LKS and technology startups creates product and service innovations that are adaptive to the times and the needs of the community (Nuroniyah et al., 2024) . This cooperation gave birth to innovations in Islamic financial services. Digital payment of zakat becomes more efficient, while social donations can be collected widely through the use of QR code technology and sharia digital wallets. *Unbanked* people no longer need to carry large amounts of cash because transactions can now be done only through cellphones. The applications are designed with a simple and user-friendly interface, accompanied by 24-hour customer service. Customers can now monitor their balances and transactions in real-time. Agreements are approved through digital signatures, while smart contracts and blockchain ensure security and transparency. LKS does not need to open many branches because digital operations reduce costs and speed up processes, including disbursement of financing in a short time (Cahyadi, 2020) . IoT technology helps monitor financed businesses, while customer data analysis is used to customize products according to local needs. Promotion is done through digital campaigns and social media, which will strengthen LKS' position in the competition, especially among Generation Z who are familiar with technology (Qothrunnada et al., 2023) . In short, digitalization becomes a bridge between LKS and the unbanked community. The synergy between technology and sharia principles encourages inclusion and social justice in a sustainable manner.

Implementation Challenges of Islamic Financial Institutions for Unbanked Communities

In the current era of technology, there are various opportunities to encourage activities from all sectors ranging from industry, investment, as well as in the financial sector. However, not all people are able to accept digital developments and find it difficult to adapt, resulting in various challenges that can disrupt the smooth running of the existing digital system. Here are some challenges from the implementation of Islamic financial institutions for *unbanked* communities

a. Lack of Islamic financial literacy

Unbanked communities generally lack understanding of sharia financial principles such as profit sharing (mudharabah/musyarakah), prohibition of usury, and sharia contracts. People in villages generally only understand conventional banking, and even then, their understanding of banking is still low. So this is a challenge for Islamic financial institutions to implement Islamic financial products among *unbanked* communities. Moreover, rural communities are still thick with traditional cultures that are difficult to accept the times. For example, the people of the Kajang tribe, Bulukumba, South Sulawesi have not been touched by digitalization, making it difficult to educate the community.

b. Limited access to Islamic financial institutions

Accessibility is a major problem in various industries, including Islamic finance. This is a problem because there are still many roads in Indonesia that are damaged and not maintained, thus slowing down the distribution of Islamic financial institution products, (Abdulkarim & Ali, 2019) . This is exacerbated because most of the *unbanked* people come from rural areas. The network of Islamic financial institutions such as Islamic banks, BMT, Islamic fintech, and other Islamic banking products are still concentrated in urban areas and strengthen the decentralization of Islamic finance centered in urban areas.

c. Perception of cost and complicated administration

The *unbanked* community perceives that the administration to use Islamic financial products is expensive and complicated, which causes the community to increasingly not view Islamic financial institutions as a solution for saving or making investments, (Wulandari & Kassim, 2016) . As a small example, halal certification implemented by the government is complicated and takes a long time so that people have the view that the Islamic sector universally has complicated administration. In addition, the fees for administration and utilities in terms of Islamic banking are sometimes burdensome to the public so that people prefer to use traditional or conventional savings.

Overall, the challenges of the implementation of Islamic financial institutions for the *unbanked* community will continue to be an important study that must be resolved quickly so that the realization of Islamic finance can be carried out properly and quickly as well. There needs to be support from the government both in the form of regulations and direct field practices by the government so that the expansion of Islamic financial institution products is maximized.

Digital transformation strategy of Islamic Financial Institutions *for* Unbanked communities

In facing the challenges of digital development and inappropriate digital use, of course, it takes the right and effective strategy in solving some of the problems of digital transformation of Islamic financial institutions.

1. Digital financial education and literacy

   Efforts to increase financial stability to create a prosperous society and inclusive development certainly need strategic actions, one of which is by educating the public and providing insight into the significance of Islamic finance. The concept of financial literacy stems from an understanding of financial products, financial institutions, financial instruments, and financial skills. One of the main reasons why Indonesian people are not yet inclusive in using Islamic financial products is because education and literacy are still lacking so that sometimes people do not understand the use of Islamic financial facilities, both contracts and other instruments. Service and training programs are certainly also important to be implemented so that the community is well educated and directly. Training programs such as *workshops*, seminars, community service are usually carried out by Islamic financial institutions to educate the public. So that from these programs it can increase public understanding of Islamic finance, as well as MSME players are now increasingly using Islamic financial products in their activities, (Ramiyanti et al., 2023; Saputro et al., 2022) . *Unbanked* people will also better understand the use of Islamic finance if Islamic financial education and literacy is carried out properly, because the cause of the large number of *unbanked* people in Indonesia is due to the lack of massive education carried out by Islamic financial institutions, so this is a strategic step that must be taken by Islamic financial institutions in Islamic financial transformation.

2. Strategic collaboration

   Strategic collaboration includes synergies between Islamic financial institutions and various parties such as *fintech startups*, *philanthropic* institutions, government, and community or student organizations. This collaboration enables the use of resources, technology, and social networks to create more inclusive, accessible, and sharia-compliant financial services. For example, collaboration with KNEKS and OJK for sharia financial education program development activities will encourage inclusive use of sharia financial products. In addition, the integration of social programs such as zakat, infaq, sadaqah, and waqaf in microfinance schemes can be an entry point to reach small communities, especially those marginalized by the conventional financial system, (Abdul et al., 2024) . With a structured and inclusion-oriented collaboration, Islamic financial institutions not only transform their internal workings, but also play a significant role in promoting economic justice and community welfare. This strategy is not just about business expansion, but also a social mission to bring a fairer and more sustainable financial system that can reach the *unbanked*,

3. Improvement of supporting infrastructure for Islamic financial institutions

   The *unbanked* community is a community that does not have good financial services. One of the reasons is that the service facilities are still not good, *unbanked* communities are usually located in remote, rural areas, or lower economic groups that do not have access to financial services. Islamic financial institutions in collaboration with the government need to improve facilities properly. Facility improvement starts from providing equitable digital access. In the current period of digital transformation, technology acts as the main medium to reach the wider community in a cost-efficient manner. However, without adequate internet services, affordable digital devices, and easy-to-use services, the *unbanked* community will still be marginalized. Therefore, it is necessary to strengthen digital infrastructure such as village internet networks, sharia-based digital financial service centers, to support the presence of sharia financial agents in rural areas, (Rika Widianita, 2023) . Physical infrastructure is still needed, although digitalization is the direction of the future, but areas that have not been touched by technology are practical and real solutions to ensure the presence of Islamic financial institutions in the community. So that infrastructure development will have a major influence on the digital transformation of Islamic financial institutions, (Amarta, 2024) .

With these three strategies, the digital transformation of Islamic finance not only reduces the access gap, but also empowers the *unbanked* community as part of an inclusive Islamic economy. As the principle of *maqashid sharia*, this strategy aims to protect wealth (*hifzh al-mal*) and ensure benefits (*maslahah*) for all levels of society-without exception.

This research certainly has several limitations, including: data is limited to secondary sources without in-depth field verification, dynamic policy analysis has not been fully covered, cultural factors and trust of the *unbanked* community are less explored, and the long-term impact of digital transformation has not been measured. These limitations open up opportunities for further research, such as qualitative studies in 3T areas, comparative analysis of inter-agency implementation, or interdisciplinary approaches combining technology, Islamic economics, and sociology. This transparency encourages stronger collaboration between academia, industry and regulators to expand Islamic financial inclusion in a sustainable manner.

Conclusion

Digital transformation of Islamic Financial Institutions (FIs) offers a great opportunity to reach the *unbanked* in Indonesia through appropriate and measurable strategies. The main findings show that the application of digital technology can improve financial inclusion, especially in remote areas. Thus, this study contributes to the literature by providing empirical evidence on the effectiveness of digital strategies in expanding access to Islamic finance. Limitations of this study include the focus on specific geographical areas and the use of cross-sectional data. Future research could expand the geographical coverage and use longitudinal data to analyze the long-term impact of digital transformation on financial inclusion. To maximize the potential of LKS digital transformation in reaching the *unbanked*, close collaboration between the government, LKS, *fintech* companies, and the community is needed. Key strategic steps include improving digital infrastructure, digital-based Islamic financial education, and accelerating infrastructure development that supports Islamic banking.

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