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Persons with disabilities' financial literacy and access to financial services

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ABSTRAK

Penyandang disabilitas seringkali mengalami kesulitan dalam mengakses layanan jasa keuangan, padahal kelompok masyarakat ini rentan terhadap kemiskinan. Kondisi ini disebabkan oleh minimnya literasi keuangan dan layanan jasa keuangan yang tidak dapat diakses, baik secara infrastruktur ataupun aturan-aturan sistem keuangan. Untuk itu, studi ini bertujuan untuk menggambarkan sejauh mana kemampuan literasi keuangan penyandang disabilitas dan aksesibilitas lembaga jasa keuangan, di mana keduanya merupakan aspek penting dalam keuangan inklusif. Dengan menggunakan metode Focus Group Discussion (FGD) dan survei, penelitian ini secara holistik akan menyajikan analisa data kuantitatif dan kualitatif tentang literasi keuangan dan keterjangkauan penyandang disabilitas terhadap layanan jasa keuangan. FGD dan survei dilakukan di tiga kota di Provinsi Jawa Timur, yaitu: Kota Surabaya, Malang, dan Mojokerto. Hasil penelitian menunjukkan bahwa literasi keuangan penyandang disabilitas, yang ditunjukkan dengan kemampuan membuat perencanaan keuangan, masih sangat rendah. Selain itu, aksesibilitas infrastruktur dan persyaratan jasa keuangan juga belum ramah terhadap penyandang disabilitas sehingga para penyandang disabilitas tersebut enggan untuk menggunakan jasa keuangan.

ABSTRACT

Persons with disabilities often face various obstacles in accessing financial services. This condition is caused by the lack of financial literacy and the inaccessibility of financial service institutions, both in infrastructure and financial system rules. For this reason, this study aims to explore the financial literacy of persons with disabilities and the accessibility of financial service institutions. Using the Focus Group Discussion (FGD) and survey methods, this study presents quantitative and qualitative descriptive analysis

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on financial literacy and accessibility of persons with disabilities to financial services. FGDs and surveys were conducted in three cities in East Java Province, namely Surabaya, Malang, and Mojokerto. The results show that the financial literacy of persons with disabilities, as indicated by their abilities to make financial planning, is still very low. In addition, infrastructure accessibility and financial service requirements are inaccessible for persons with disabilities, so that they are reluctant to access the financial services.

INTRODUCTION

There are currently 92 million Indonesian adults who do not have access to financial services, the highest among the ASEAN countries (Kusnandar, 2019). This figure indicates the financial services sector's low inclusivity. Nevertheless, developing countries were encouraged to enhance financial inclusivity through the G-20 high-level conference in Los Cabos, Mexico, in 2012 (Hermawan, 2012). The condition arguably reduces economic growth and increases economic inequality (Peraturan Presiden Republik Indonesia Nomor 82 Tahun 2016 Tentang Strategi Nasional Keuangan Inklusif, 2016; Sharma, 2016). Financial inclusion is closely related to financial literacy and public access to financial services (Bongomin et al., 2020; Okonji & Ogwezzy, 2018). Financial literacy refers to individuals' understanding of financial concepts and the ability and skills to manage money and make financial decisions (Askar et al., 2020). Hence, financial literacy facilitates better financial decisions (Grohmann et al., 2018). Financial literacy also helps economically disadvantaged people to make better financial decisions before using certain financial services or products (Bongomin et al., 2018). In this respect, persons with disabilities are highly vulnerable to poverty (Yeo & Moore, 2003) that they often face obstacles in accessing financial services and products, especially in the banking sector.

Hafni & Rahmawati (2019) classify persons with disabilities' obstacles in accessing financial services in the banking sector into three groups: administrative, infrastructure, and behavioral obstacles. Administrative requirement obstacles refer to collateral and companion requirements. Visually impaired individuals often find it hard to have companions when accessing banks' financial services. Meanwhile, those with a physical disability often experience infrastructure obstacles because many buildings do not comply with universal design standards. Another obstacle is behavioral. Stigma and stereotypes against persons with disabilities often lead to discriminative behavior towards them. They are often considered less legally capable of accessing banks' financial services. Besides, women with disabilities even face greater obstacles in accessing financial services because they are considered weak and unable to return loans (Bualar, 2011).

Financial literacy is closely related to education level. More highly educated people tend to have better financial knowledge (Lusardi & Mitchell, 2011). Unfortunately, persons with disabilities have lower education levels. The data suggests that more than 59.8 percent of persons with disabilities in Indonesia do not receive education or graduate from elementary school. Of 40.2 percent of the educated, 70.52 percent only have an elementary school education, and 0.04 have a master's or Ph.D. degree. Further, 16.28 percent of them have a junior secondary degree, 11.60 percent have a senior secondary degree, and 1.57 percent have bachelor's or vocational degrees (Rizky, 2015). The data indicate that persons with disabilities in Indonesia have lower education levels that they are more likely to have much lower financial literacy. Besides, based on the 2013 National Survey of Financial Literacy, only 21.84 of the Indonesian population had sufficient financial knowledge and trust in financial services and products (OJK, 2015). These conditions motivate this study to select Indonesia as the research location.

Several studies have investigated access to financial services for persons with disabilities. On the one hand, these studies focus on persons with disabilities' perspectives (Nuwagaba et al., 2012). On the other hand, other studies analyze financial institutions' access to persons with disabilities (Bualar, 2011; Dahlem, 2010; Nopiah & Islami, 2018; Sarker, 2013). However, these studies lack a comprehensive analysis that examines both persons with disabilities' financial literacy and financial services' accessibility for persons with disabilities. Hence, this study seeks to fill in the gap by offering a descriptive analysis of persons with disabilities' financial literacy and access to Indonesia's financial services. Consequently, this study indirectly also illustrates financial institutions' inclusivity to persons with disabilities in Indonesia. Eventually, this research serves as a reference for academicians and practitioners in the inclusive finance field.

LITERATURE REVIEW

Basically, literacy can be defined as individuals' ability to read and write. Further, financial literacy is often used overlapping with financial knowledge, although both slightly differ. Huston (2010) defines financial literacy as the extent individuals can understand and use information related to their personal finances. Financial literacy differs from financial knowledge in the implementation stage. Financial literacy implies that individuals should use their financial knowledge to make financial decisions. Hence, financial literacy refers to a human capital component that improves life quality through financial allocation.

Financial literacy motivates individuals to manage their personal finances better. Thus, financial literacy is crucial in our daily lives. Failure to manage personal finances may have long-term negative impacts. Several financial service providers inform that consumers' lack of financial knowledge leads to high bankruptcy, bad debts, low saving levels, and impulsive buying (Perry & Morris, 2005). This condition is affected by complicated and inaccessible financial information sources for the public (Chang & Hanna, 1992). Bennett et al. (2012) find significant relationships between financial literacy and cognitive functions, low disability levels, and good mental condition.

In this respect, persons with disabilities are vulnerable because they are often discriminated against in accessing financial services. This condition can be indicated by at least two perspectives: financial literacy and accessibility to financial institutions. Accessibility consists of physical and non-physical infrastructure accessibility. Mitra et al. (2013) observe that most persons with disabilities in developing countries suffer from multidimensional poverty, have low education and employment participation, and incur higher health costs. Besides, older persons with disabilities (more than 40 years old) and those with multiple disabilities are more vulnerable to multidimensional. In Indonesia, the poverty rate of persons with disabilities in 2012 was 13.86 percent, while only 12.86 percent of persons without disabilities are below the poverty line (Bella & Dartanto, 2018). Singh (2014) also finds a similar condition in India where the economic disparity between persons with and without disabilities exist that is affected by various dimensions, including gender, caste, and geographical area (urban vs. rural). For example, women with disabilities have worse economic conditions than their male counterparts and persons with disabilities living in urban areas have better access to leave the poverty than those in rural areas. Besides, other factors such as lack of governmental supports, insufficient social protection, inaccessible public facilities (education, economic, banking and other financial services) for persons with disabilities, exclude further persons with disabilities from economic activities.

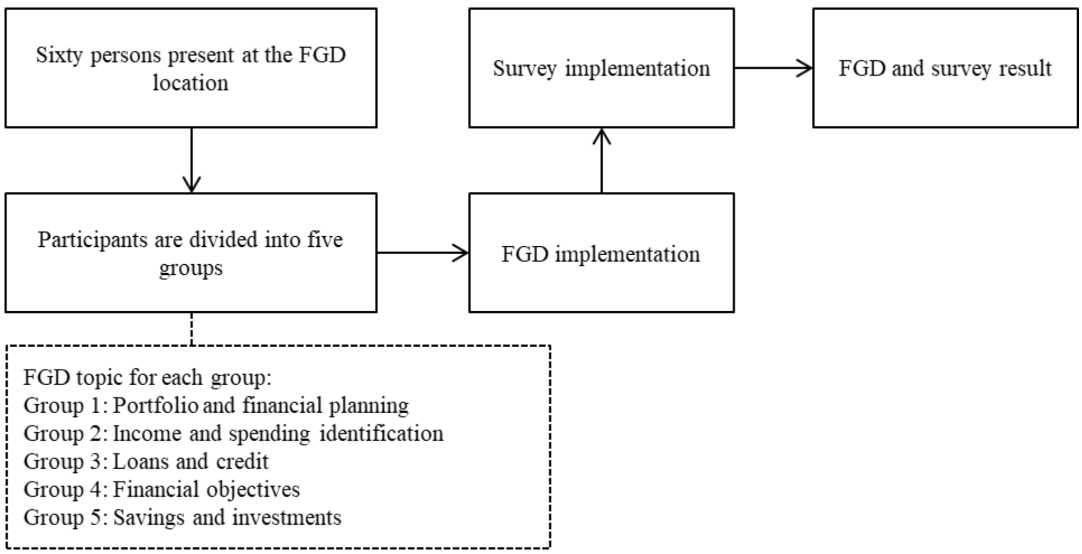
Several studies investigate persons with disabilities' financial literacy and accessibility. For example, Nuwagaba et al. (2012) observe that mobility and trust in persons with disabilities affect acceptance of persons with disabilities in accessing microfinance services that are crucial in reducing their poverty rate in various countries (Sarker, 2013). The findings are in line with Nopiah & Islami (2018). They show that persons with disabilities' access to saving and loan cooperatives (*KSP – Koperasi Simpan Pinjam*) in Jogjakarta significantly enhances their economic resilience. Besides, the cooperation between microfinance institutions and organizations of persons with disabilities reduce social exclusion, stigma, and various discriminations against persons with disabilities in their social lives (Sarker, 2013). However, women with disabilities still find it difficult to access financial services in microcredit loans (Bualar, 2011). Another study documents that persons with disabilities who receive SSDI (Social Security Disability Insurance) obtain greater benefits from financial planning plans (Dahlem, 2010).

RESEARCH METHODS

This study employs the quantitative survey and FGD (Focus Group Discussion) methods. The research is administered in three cities in East Java Province (Malang, Surabaya, and Mojokerto) because these cities represent different economic characteristics and communities of persons with disabilities in this province. Surabaya City is the largest city in East Java and the second-largest city in Indonesia. Meanwhile, Malang is the satellite city of Surabaya. It is also the second-largest city in this province. Lastly, Mojokerto has numerous organizations representing persons with disabilities and is not projected to become an urban city. These three cities also arguably boast better accessibility to public services than other cities and have relatively strong communities of persons with disabilities. Even Surabaya hosts a provincial secretariat office of these organizations.

This research is administered in June-August 2014 by organizing FGDs and quantitative surveys to all present participants in these three countries. In particular, each city has 60 persons with disabilities (equally split between female and male participants) as the participants. Hence, 180 persons with disabilities have filled in the questionnaires and participated in FGDs. We invite FGD participants through organizations of persons with disabilities in each city.

This study codifies participants by adding the R alphabet in participants' serial numbers and use the initials of participants' revealed names to ensure confidentiality. The FGDs classify participants into five groups, with each group consists of twelve persons. Each group discusses different topics, namely portfolio and financial planning, income and spending identification, loans and credit, financial objectives, and savings and investments. Figure 1 displays the research flow.



Source: Processed by the author (2014)

Figure 1
Research Flowchart

We select these three cities as the research location for the following reasons. First, these cities have relatively active organizations of persons with disabilities, especially in economic empowerment. Second, Surabaya is the largest and capital city of East Java Province. Third, Malang City is the satellite city of Surabaya and boasts groups that actively advocate for persons with disabilities. Fourth, Mojokerto City represents small cities in East Java with numerous NGOs and organizations of persons with disabilities that actively promote equal rights for persons with disabilities, including *Himpunan Wanita Disabilitas (HWDI), Gentong Rayahu, Perhimpunan Penyandang Disabilitas Indonesia (PPDI),* and others.

RESULTS AND DISCUSSION

Persons with disabilities' Financial Literacy and Access to Financial Services.

Persons with disabilities face various obstacles in accessing financial services due to numerous factors, including insufficient financial literacy that causes ill-designed financial planning. Various factors indicate persons with disabilities' low financial literacy, such as the extent they save and prepare financial planning, recording savings and expenditures, and fund availability in case of emergency. The study documents that more than half (51.11 percent) of persons with disabilities do not have savings. Table 1 below displays the proportion of persons with disabilities who (do not) have savings.

Table 1
Ownership of Savings

	Percentage (%)	**Frequency (f)**
Yes	48,89	88
No	51,11	92
N	100	180

Most persons with disabilities are also unprepared for emergent needs in their daily lives that require additional money. The data shows that only 56 percent of persons with disabilities are not prepared for incidental needs. The figure indicates that most persons with disabilities are highly vulnerable in their daily finances. Table 2 below illustrates the preparedness of persons with disabilities in anticipating incidental needs.

Table 2
Preparedness of Persons with Disabilities in Anticipating Incidental Needs

	Percentage (%)	**Frequency (f)**
Yes	45	81
No	56	99
N	100	180

Our survey also demonstrates that 94 percent of persons with disabilities never record financial matters in their daily lives. Hence, similar to the public in general, persons with disabilities have not planned and managed their finances well (Yushita, 2017). Table 3 below shows the percentage of persons with disabilities who record their financial matters.

Table 3
Record of Financial Matters

	Percentage (%)	Frequency (f)
Yes	6	81
No	94	99
N	100	180

Table 3 indicates that most persons with disabilities do not have sufficient financial planning. Besides, most of them also do not record their financial matters. Consequently, they are not well-prepared in anticipating incidental needs in their daily lives. They also cannot access financial services because they lack access to infrastructure and accommodation facilities. Table 4 below suggests that 70 percent of persons with disabilities never save on financial services.

Table 4
Saving in Financial Services

	Percentage (%)	Frequency (f)
Ever	30	45
Never	70	135
N	100	180

The data implies that only a few persons with disabilities have savings and record their financial planning. Our findings support Perry & Morris (2005) who find that consumers' low financial knowledge leads to insufficient saving levels.

Persons with disabilities are often discriminated against when accessing financial services. The data shows that most of them (65 percent) ever noticed that their fellow persons with disabilities are discriminated against by financial institutions. Table 5 below illustrates the percentage of persons with disabilities who are subject to discrimination.

Table 5
Ever Being Discriminated?

	Percentage (%)	Frequency (f)
Never	35	63
Ever	65	117
N	100	180

Besides being discriminated against, persons with disabilities also often find difficulties in accessing financial services. The data indicates that most respondents (27.03 percent) mention that inaccessible system infrastructure is their main obstacle in accessing financial services, followed by complicated requirements (21.62

percent), inaccessible facilities, and their own acute disabilities (both equally mentioned by 18.92 percent of total respondents). Only 13.51 percent of total respondents reveal that they have no difficulties in accessing financial services.

Table 6
Persons with Disabilities and Difficulties in Accessing Financial Services

	Percentage (%)	Frequency (f)
Inaccessible Infrastructure	18,92	35
Complicated Requirements	21,62	38
Own Disabilities	18,92	35
Inaccessible System	27,03	48
No Difficulties/ Obstacles	13.51	24
Total	100	180

Debit card ownership or usage is an indicator of how persons with disabilities utilize existing facilities for their financial purposes. The data suggests that most respondents (55.10 percent) do not have a debit card. This data implies that persons with disabilities lack access to financial services. The finding is in line with Nuwagaba et al. (2012) who find that mobility, trust in persons with disabilities, and disability types affect persons with disabilities' acceptance process in accessing financial services. Table 7 below illustrates debit card ownership of persons with disabilities.

Table 7
Debit Card Ownership

	Percentage (%)	Frequency (f)
Yes	45	81
No	55	99
N	100	180

Persons with disabilities' Ability in Financial Planning

Financial planning helps persons with disabilities achieve their targeted financial conditions in the future and improve their financial condition. In other words, financial planning guides them to achieve their financial objectives. Individuals can achieve their financial objectives by applying appropriate strategies requiring finance-related knowledge, commonly known as financial literacy.

Two of the three respondent groups mention that they have financial objectives and understand how to achieve these objectives. They have numerous financial objectives, ranging from making a *Hajj* pilgrimage, buying accessible vehicles, developing business, and renovating houses. Respondents R2 and R21 explain the following:

> "For me, my personal objective is having a house. It is a long term objective. My colleagues in this group have various financial objectives, such as making a *Hajj* pilgrimage, buying three-wheeled motorcycles, developing the garment business, and others" (R2, Focus Group Discussion, April 22, 2014).

> "I aim to achieve my positive objectives by focusing on our hard works, including by setting aside funds for incidental needs. My financial objectives are: 1) having and developing the business, 2) making a *Hajj* pilgrimage, 3) having motor vehicles (motorcycles or cars), 4) renovating the house, and 5) financing children's studies. I have to save, invest, run a business seriously to achieve these objectives" (R21, Focus Group Discussion, May 11, 2014).

However, persons with disabilities face several obstacles in achieving their financial objectives. The general obstacles include difficulties in identifying revenues and expenditures that lead to indisciplined budgets and failure to secure emergency funds to anticipate incidental needs. Respondents R2 and R6 emphasize this issue:

> "Discipline is indeed often the obstacle. I actually have calculated and classified our finances into short-term, medium-term, and long-term objectives. I have also saved to achieve these objectives. However, I sometimes face urgent or incidental needs such as ill children. I am also sometimes not disciplined enough" (R2, Focus Group Discussion, April 22, 2014).

> "I still do not separate business and household money. Sometimes my savings have to be taken for incidental needs, such as paying school fees. I also invest in land or shop in the market or even to compensate stolen money at home. Lastly, I sometimes have to use business money for daily or incidental needs" (R6, Focus Group Discussion, April 27, 2014).

Besides, financial records that track all incomes, expenditures, and other financial accounts such as savings and investments are necessary for well-prepared financial planning. Sufficient financial records enable persons with disabilities to estimate the rationales of their spendings and incomes that will eventually help them achieve their financial objectives. Unfortunately, almost all FGD participants have not recorded their financial matters, as explained by the following participant.

> "I used to record my financial matters diligently. However, I began to think that too many records would only make me dizzy" (R18, Focus Group Discussion, Mei 11, 2014).

> "Our groups conclude that recording financial matters is rather difficult, especially for those who have unstable income like me. Sometimes I can only earn Rp 5,000 for patching a single tire. Even worse, I sometimes earn nothing. That is very uncertain" (R7, Focus Group Discussion, April 22, 2014).

> "The main obstacle is that I do not have enough time to record. I spend the money right after I receive my salary. I need food, shopping, cooking because I do not have a wife" (R8, Focus Group Discussion, April 22, 2014).

> "The obstacle remains the same. I do not spend my income lavishly but on my daily needs. However, I do not record my finances. My petty coffee shop has uncertain income. I can save only when I earn more income" (R9, Focus Group Discussion, April 22, 2014).

> "As the group representative, I can say that our rural background explains the inability to record financial matters. Furthermore, our disabilities also lead to uncertain incomes." (R10, Focus Group Discussion, April 22, 2014).

> "Our group discussion indicates that almost all of our group members never record. We never identify incomes and expenditures. However, most persons with disabilities have unstable incomes. We only have side incomes." (R11, Focus Group Discussion, April 22, 2014).

> "We discuss financial records and find out that many of us do not record their financial matters because of limited managerial experience and knowledge, unstable monthly incomes, less budget discipline, and reliance on unwritten financial planning" (R14, Focus Group Discussion, April 27, 2014).

> "We never think of financial records so much. Because we do not have stable jobs, we work and earn money for daily lives" (R15, Focus Group Discussion, April 27, 2014).

The FGD results demonstrate that persons with disabilities do not prepare financial records largely because of unstable incomes, making it difficult for them to identify their incomes and expenditures. Their incomes barely meet their daily needs without any remaining left. Hence, persons with disabilities consider financial records less important. To make it worse, persons with disabilities have not appreciated the importance of preparing financial records until the FGD is organized. The relationship between cognitive ability and financial literacy is suggested by Bennett et al. (2012). In this respect, education level represents individuals' cognitive ability. Thus, persons with disabilities' low financial literacy is closely associated with their low education level. Furthermore, Mitra et al. (2013) find that most persons with disabilities in developing countries (including Indonesia) have relatively low education levels (Rizky, 2015).

The FGD informs participants on how to prepare financial records and planning. Besides, the participants also understand the other important components of financial planning, namely savings and investments. This notion is presented by participant R22 as follows:

> "Based on the discussion in our group, we now understand that investments refer to savings that cannot be withdrawn within certain times and provide returns continuously. Savings money in banks is better than in piggy banks because banks record our savings. They can also lend our money to various borrowers, including those in online business. Saving money in banks is also much safer and discourages us from withdrawing the money easily. However, the interests from saving in banks are not much different from saving at home. It is better to invest in land or houses than save the money in banks because banks only offer low-interest rates" (R22, Focus Group Discussion, May 11, 2014).

However, an FGD participant has understood and implemented financial planning. Unstable income encourages the participants to anticipate the uncertainty by having savings and emergency funds. Below is the statement of participant R18, who has prepared financial planning.

> "I changed the way I managed my financial matters by setting aside at least 10 percent of my income, and I use 90 percent of my income for daily needs. I reduce major expenses by converting the post-paid to a pre-paid plan of electricity usage. I cover incidental expenses through my sparred incomes or unspent weekly income because I usually do not spend all my income …" (R18, Focus Group Discussion, Mei 11, 2014).

Besides understanding the importance of financial planning, most respondents also understand the advantages and objectives of borrowing. Persons with disabilities know that debts are beneficial if used for business capital to develop their business activities. However, consumptive debts will not generate returns. Participants R3, R13, and R19 argue the following:

> "I understand that borrowing money requires me to pay interests. Debts are okay if they are for business but not good for consumption " (R3, Focus Group Discussion, April 22, 2014).

> "Based on our group discussion on loans and credit, we only borrow if we have to. We need loans with low-interest rates. It is necessary to use debts for business. I myself plan to have a garment business in 2015 without debt, and I have started saving for the capital and equipment. Some of my group members never have debts because they can still manage their incomes and expenditures and are afraid of being unable to repay the loans. Hence, debts are unnecessary if you do not have to, such as having unexpected and urgent needs like a sickness" (R12, Focus Group Discussion, April 27, 2014).

Persons with disabilities' Ability to Access Financial Services

Lack of stable income and limited business capital often cause persons with disabilities to face obstacles. Furthermore, most of them earn their living as entrepreneurs. However, they find it difficult to obtain loans from financial institutions due to inaccessible infrastructure, stigma, and complicated requirements. The FGD results are in line with Hafni & Rahmawati (2019) who demonstrate that persons with disabilities face complicated administrative, infrastructure, and behavioral obstacles when accessing financial services. As informed by participant R19,

> "We (persons with disabilities) do not have properties as debt collaterals, and banks require a signature as an administrative requirement that discourages our visually impaired colleagues from applying for loans. Furthermore, we are afraid of being unable to repay the loans." (R19, Focus Group Discussion, May 11, 2014).

Persons with disabilities also find similar obstacles when trying to open bank accounts. Participant R3 notes,

> "We (persons with disabilities) save in saving and loan cooperatives or at home. Many banks are not willing to serve us, especially visually impaired ones, because they cannot sign" (R3, Focus Group Discussion, April 22, 2014).

Other persons with disabilities are not willing to apply for bank loans because they do not have collateral assets and are afraid of being unable to repay the loans due to high-interest rates. Participant R1 reveals that:

> "Debt is necessary, especially for persons with disabilities like us. However, banks charge high-interest rates. It is difficult. Furthermore, we have to have assets as collateral. We cannot use ourselves as the collaterals. We also cannot use our motorcycles as the collaterals because the registration permits are already expired, and they are three-wheeled ones. Thus, we borrow to repay our previous debts" (R1, Focus Group Discussion, April 22, 2014).

Having no assets that can serve as collateral motivates persons with disabilities to borrow from their friends or relatives. Participant R5 informs the following:

> "*Pak* W has a boarding house business, but he cannot develop it because he is not willing to apply for bank loans. Hence, his business barely survives. Also, *Mas* A has a small shop that needs additional capital for further development. Similarly, *Pak* Joko offers a massage service and needs more capital to rent a more decent business location. None of them is willing to apply for bank loans. They borrow money from their friends and relatives" (R5, Focus Group Discussion, April 27, 2014).

Structural obstacles faced by persons with disabilities require solutions that enable persons with disabilities to improve their economic condition and, eventually, their quality of life. In this respect, persons with disabilities recommend that financial institutions offer interest-free loans, simplify their administrative processes, and improve the accessibility of the buildings. The FGD participants also note that several financial institutions have already offered interest-free loans and improved building accessibility for persons with disabilities. For example, Bank Mandiri has offered loans requiring a senior high school diploma as the collateral. Its Surabaya branch office has also enhanced its accessibility for persons with disabilities. Also, the Regional Office of Cooperatives of Mojokerto City has offered interest-free loans. An FGD participant mentions the following:

> "The Regional Office of Cooperatives of Mojokerto City offers interest-free loans. However, I am not sure about other cities. We do not have to repay in the first six months after the loans, and then we have to repay for the following ten months

without interest. The loans are targeted only for entrepreneurs" (R20, Focus Group Discussion, May 11, 2014).

"I borrowed from Bank Mandiri, of which branch office is located near my house. The branch office has also improved the accessibility (R5, Focus Group Discussion, April 27, 2014).

"The maximum loan in Bank Mandiri is Rp5.000.000- with my senior high school diploma as the collateral. When the bank officers came to my house, they analyze my ability to repay the loans in less than two years. They determined the installment payments from our ability to repay and not from our net income (R20, Focus Group Discussion, May 11, 2014).

Persons with disabilities' Low Financial Literacy and Access to Financial Services

The data generated from the survey and FGDs in three cities in East Java show that persons with disabilities have very low financial literacy. They exhibit much less willingness to and awareness of financial planning and recording, as suggested by the survey results and qualitative analysis in the FGDs. Such conditions are similar to the financial literacy of the general public. The Financial Services Authority (*OJK*) of the Republic of Indonesia reports that in 2013 only 21.84 percent of Indonesian citizens have sufficient financial literacy (OJK, 2015).

Financial literacy is closely related to education level. Most persons with disabilities only have at most elementary education. Specifically, 59.8 percent of persons with disabilities never go to school or do not pass elementary school. Of 40.2 percent of persons with disabilities with at least an elementary school diploma, 70.52 percent only graduate from elementary school, and less than 2 percent graduate from elementary education. Thus, persons with disabilities have very limited access to tertiary education (Rizky, 2014).

Consequently, poverty, which is largely affected by financial literacy, and education form a vicious circle that continuously restricts persons with disabilities' potentials. The findings are in line with the International Labour Organization (ILO) report that informs that about 82 percent of persons with disabilities living in developing countries live below the poverty lines. They are more vulnerable to poverty according to various traditional economic measures (including GDP) and broader nonmonetary measures such as quality of life that represents education, health, life condition, and financial planning (ILO-EAST, 2011).

Lack of accessible financial service infrastructure and an inclusive financial system for persons with disabilities discourage them from accessing financial services. Accessible infrastructure remains a serious problem in Indonesia that exclude persons with disabilities. They find it hard to fulfill their daily needs due to limited access to physical facilities. In line with the argument, Thohari (2014) documents that most persons with disabilities in Malang City cannot access public facilities. The finding is closely related to the public perception of persons with disabilities. Underprivileged society members find it hard to access financial services because of infrastructure and a less inclusive financial system. In this respect, various microeconomic programs prove to reduce poverty (Mujiono, 2016). Persons with disabilities' access to microfinance services also alleviates their poverty, stigma, and discriminatory practices against them (Sarker, 2013).

However, most financial institutions require higher collateral and complicated procedures that make it hard for underprivileged individuals (including persons with disabilities) to access microfinance and other financial services. Consequently, they cannot develop their business activities. Furthermore, a relatively recent survey (Halimatussadiah et al., 2016) finds that most persons with disabilities work in the informal sector (65.55 percent). In this respect, access to financial services, especially micro ones, will improve their economic conditions. Hence, stakeholders (governments, private sector, and financial institutions) urgently need to improve persons with disabilities' financial literacy and access to financial institutions. The improvement includes the provision of an accessible financial system and infrastructure for persons with disabilities.

CONCLUSIONS, LIMITATIONS, AND SUGGESTIONS

Persons with disabilities are underprivileged society members who are vulnerable to discrimination and social exclusion by the public as economically indicated by their low financial literacy. Our study suggests that persons with disabilities exhibit low financial literacy, including recording financial matters, financial planning, and financial resilience. We also demonstrate that the Indonesian financial system has not inclusively embraced persons with disabilities, as indicated by high loan collaterals and limited microfinance services for them. Besides focusing on tackling these issues, financial institutions also need to enhance the accessibility of their infrastructure to persons with disabilities. These results only describe the persons with disabilities' financial literacy and financial service accessibility in three industrial and metropolitan cities in East Java. For this reason, we suggest future studies to expand the analysis by analyzing persons with disabilities' financial literacy and financial service accessibility in other regions in Indonesia with different demographic and geographic conditions.

DISCLAIMER

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