Digitalisation of birth registration system in Malaysia: Boon or bane for the hard-to-reach and marginalised?

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ABSTRACT

Access to birth registration among the refugees, migrants, and undocumented or stateless individuals in Sabah and Peninsular Malaysia remains hindered largely due to their lack of legal status. This study identifies the barriers to birth registration faced by these communities, including during the COVID-19 pandemic, and explores the extent to which digital technologies may overcome or amplify these barriers. Findings are reported from a review of literature, websites, and media articles and semi-structured interviews with community-based organisations and community leaders representing the communities. The themes for the questions were structured based on Plan International's (2015) Step-by-step Guide for Identifying and Addressing the Risks to Children in Digitised birth registration systems. We identified that the digitalisation of birth registration poses more risks of exclusion than benefits to the marginalised communities without a secure and inclusive operating environment. Subject to an inequality assessment to evaluate and address the existing inequalities, a hybrid system that factors in the role of citizen facilitation hubs would be ideal for ensuring no one gets "left behind".

1. Introduction

In 2015, the UN member states pledged to provide "legal identity for all, including birth registration" by 2030 through the adoption of Target 16.9 as part of the 2030 Sustainable Development Agenda. According to the UNLIA, legal identity is the basic characteristics of an individual's identity like name, sex, place, and date of birth conferred through registration and issuance of a certificate by a civil registration authority following the occurrence of birth (UNSD 2022b) Target 16.9 demonstrates the UN's recognition that global identity coverage is essential in actualising its central promise to "leave no one behind", which is a commitment to curb inequalities, discrimination, and exclusion in its broadest terms (UNDP, 2018). Legal identity is the key gateway for accessing fundamental rights, public services, and a large part of the private economy; the lack thereof often risks exploitation from criminal enterprises, or vulnerability as refugees or stateless persons before the host country authorities (UNSD, 2022a). It is no surprise that migrants, refugees, and asylum seekers have been identified as among "the world's most vulnerable and furthest behind", partly due to their lack of access to legal identity (UNDP, 2018).

Birth registration has been recognised as the fundamental means of conferring legal identity (UNLIEG, 2019). It is defined by UN standards as the continuous, permanent, and universal recording within the civil registry of the occurrence and characteristics of birth following the

national legal requirements (UNHRC, 2014). Birth registration also forms the basis of protection of a person's civil, political, economic, social, and cultural rights (UNHRC, 2014). However, despite the critical role birth registration plays in establishing legal identity and other fundamental rights, it is estimated that the births of 14 million children under the age of five (5) in East Asia and the Pacific region have not been registered (UNICEF, 2019). This problem is further exacerbated by the COVID-19 pandemic, where the birth registration completeness rate in Malaysia fell from 100% in February 2020 to 32.5% in March and 2.5% in April 2020 (DOSM, 2020a).

Given the rapid development of technology and the growing reliance on the digital economy, the digitalisation of birth registration is seen as the best way forward. However, many countries have yet to transition from paper-based civil registration systems to digital ones (UNHCR, 2017). Furthermore, the digital divide is likely to reinforce existing inequalities and even propagate new layers of inequality(UNESCAP, 2020c). A systematic inquiry is needed to examine the aspects of digitalisation of birth notification and registration system for access to legal identity and healthcare and the resulting benefits and inequalities among marginalised migrants, refugees, and stateless or undocumented persons in Malaysia ("marginalised communities").

This paper identifies the common barriers to birth registration, including during the COVID-19 pandemic, among the marginalised communities in Peninsular Malaysia and Sabah, where the non-citizen populations composed of refugees, migrants and undocumented or stateless persons are highly concentrated. The findings enable us to explore the extent to which digital technologies overcome or amplify these barriers.

1.1. Marginalised communities in Sabah and peninsular Malaysia

As Malaysia has not ratified the 1951 Refugee Convention, its Protocol Relating to the Status of Refugees 1967 or relevant Statelessness Conventions, refugees, asylum-seekers and stateless persons are treated as 'illegal' or undocumented migrants under the Immigration Act 1959 and by society (Mohamed Razali and Mamat, 2019). As of April 2022, there are 182,230 refugees and asylum-seekers registered with UNHCR in Peninsular Malaysia, 45,810 of which are children below the age of 18 (UNHCR Malaysia, 2022). Meanwhile, a total of 9040 stateless individuals have been identified in Peninsular Malaysia (UNHCR Malaysia, 2022). In 2019, it is estimated that there were 2.24 million foreign workers in Malaysia, with about 246,000 of them being undocumented (Ariff, 2021).

Due to its complex migratory context, it is more challenging to establish the exact figure of stateless persons in East Malaysia, especially Sabah (UNHCR Malaysia, 2021). This includes the indigenous people, migrants of mixed migratory backgrounds from Indonesia and the Philippines, as well as the semi-nomadic population known as the Bajau Laut. In 2018, the Sabah Immigration Director estimated that about 70% of foreigners in the state are irregular immigrants (Patrick, 2018). Most of the migrants in Sabah are of Philippine origin, and most lack legal documentation due to their failure to renew IMM13 passes - a social visit pass issued by the Immigration Department of Malaysia to Filipino refugees entering Sabah between 1972 to 1984 (Somiah and Domingo, 2021; Chong, 2020). There are also children born to couples of mixed nationalities, whose births are not registered due to fear of repatriation of the non-citizen spouse (Lumayag, 2016). Due to the irregular or undocumented status and/or unregistered marriages of parents, the births of these children remain unregistered (Mohamed Razali and Wan Hassan, 2019).

1.2. Birth registration and legal identity: international standards applicable to Malaysia

The right to birth registration is a fundamental right recognised by various international human rights instruments. Article 6 of the UDHR pronounces the right to be recognised as a person before the law while Article 7 of the CRC guarantees a child the right to a name, birth registration, and nationality. As a UN member, Malaysia is to ensure both the protection of the rights under the UDHR and the fulfilment of the SDGs, including Target 16.9 as measured by the percentage of children under five whose birth is registered with a civil authority (DOSM, 2020b). Whilst Malaysia has reserved Article 7 of the CRC, it has taken note of the recommendations on its withdrawal (COMANGO, 2021).

Malaysia has also adopted the UNESCAP Ministerial Declaration to "Get Everyone in the Picture" and the Regional Action Framework (RAF) on CRVS in Asia and the Pacific which sets out the goals and targets for the development and implementation of national CRVS strategies, including universal civil registration of births and the provision of legal documentation of civil registration to all individuals (Abdullah, 2017b). As of 2020, Malaysia has fulfilled the majority of the targets, except for 1B (at least 99.5% of children under 5 years old in the territory and jurisdiction have had their birth registered by 2024) and 1C (at least 99.5% of all individuals in the territory and jurisdiction have had their birth registered by 2024) due to inadequate data for assessment of the overall birth registration targets and a lack of national targets (UNESCAP, 2020b).

The implementation of universal birth registration is integral to the fulfilment of Malaysia's obligations under the IBelong Campaign to prevent, resolve and eradicate statelessness by 2024, including by ensuring birth registration is fulfilled (Action 7) and issuing nationality to those entitled to it (Action 8) (UNHCR Malaysia, 2019; UNHCR, 2014). Finally, Malaysia is obliged under Objective 4 of the Global Compact for Safe, Orderly and Regular Migration (GCM) to issue adequate documentation and civil registry documents like birth certificates to the migrants at all stages of migration for effective fulfilment of their human rights. (Ramachandran, 2021; UNGA, 2018).

1.3. Birth registration system in Malaysia: legal and administrative framework

Birth registration in Malaysia is administered by NRD and governed by the Births and Deaths Registration Act 1957 (Act 299) for West Malaysia (the Peninsular), Registration of Births and Deaths Ordinance 1951 (Cap. 123) for Sabah, and Registration of Births and Deaths Ordinance 1951 (Cap. 10) for Sarawak. It is compulsory for "the birth of every child born in Malaysia" to be registered. Registration relies on the initiative of the parent, legal guardian, or "person having knowledge of the birth" to visit an NRD office when a child is born (Cheong and Baltazar, 2021). In Peninsular Malaysia, registration of birth must be made within 60 days of the birth of a child. Registration after this period is considered "late" registration, which is subject to the written authorization of the Registrar and a fee of MYR 50 (USD 11.90). In Sabah, "normal registration of birth" takes place within 14 days of the birth, and "delayed" registration between the 15th and 42nd day. Beyond that would be a "late" registration, which would incur a fee of MYR 5 and MYR 10 (USD 1.20 and USD 2.40) respectively (NRD, 2021).

Births inside a public and private health facility would be certified by a registered Medical Officer, who would also provide the NRD birth registration form JPN.LM01. This is usually done subject to settlement of the hospital bill. Where a child is born outside of a health facility, the parent or informant is required to go to any formal healthcare provider to validate the birth. The Medical Officer would then issue a confirmation of birth form, equivalent to a medical certificate of birth. The birth information would be entered into the MOH Medical Care Information System (SMRP), which is a computerised system for storing patient data (Abdullah, 2017a). While these records would be transmitted and integrated into the database of the NRD, the birth is not considered registered until the parent or informant visits the NRD office for declaration of birth and submission of various forms and documents**.** Registration is completed followed by the issuance of a paper birth certificate. The birth

data would also be sent digitally to the DOSM for processing and compiling of vital statistics (Baharudin, 2019).

Documents required for birth registration include confirmation of birth document, Birth Registration Form JPN.LM01, prenatal card or maternity examination book, which records the details of the pregnancy, including the health conditions of the mother and baby obtained throughout the antenatal check-ups (NRD, 2021a; Khoo, 2014). Identity documents of both biological parents are also required, namely MyKad for citizens and valid passports and entry permits for non-citizens. Other accepted documents (on the online pre-registration system) include MyPR (Malaysia Permanent Resident Identity Card), MyKAS (Malaysia Temporary Resident Identity Card), UNHCR Card, IMM13 (Visitor Pass), Nationality Certificate, or Birth Certificate (NRD, 2021b). The applicants are also required to furnish a marriage certificate, divorce certificate, or death certificate(s) (if applicable) for purposes of determining the paternity of the child (NRD, 2021a).

The need for non-citizens to present passports and entry permits effectively renders parents' authorized status a prerequisite for the child's recognition of birth, which defeats the universality principle of birth registration (Cheong and Baltazar, 2021). This often places children of irregular migrants, refugees, and asylum seekers outside the registration system (Petcharamesree and Napaumporn, 2020; UNESCAP 2020a). The complex and stringent administrative requirements consequently create several opportunities for non-registration to occur, placing the marginalised communities at a pronounced disadvantage (Cheong and Baltazar, 2021).

1.4. Birth registration and digital technologies

In several past studies, the internet was found to have facilitated refugee involvement in transnational networks (Netto et al., 2021; Donà and Godin, 2018). Access to Wi-Fi and electricity is being recognised as equally important as food, shelter, and protection (UNHCR, 2016). Technology-related services known as 'digital humanitarianism' are now an important form of aid (Donà and Godin, 2018). Digitalisation is seen as one focus area that can help mitigate divergence and enable the attainment of the 2030 SDGs, primarily SDG 4.4.1 (Skills for the digital world), SDG 5.b.1 (Mobile phone ownership for women), SDG 9.c.1 (Proportion of the population covered by a mobile network), SDG 17.6.2 (Number of fixed internet broadband subscriptions), and SDG 17.8.1. (Proportion of individuals using the internet).

Digitalising the birth registration processes may expand the reach of registration and its benefits due to the ability of digital technologies to streamline registration processes and improve data quality, overcoming both the geographic and administrative obstacles that often keep registration low (Plan International, 2015). For context, a standard birth registration process endorsed by international organisations entails three interrelated stages, namely, declaration of birth, official registration of birth, as well as issuance of a birth certificate (UNICEF, 2019; Harbitz and Gregson, 2015). Different countries have varied arrangements, but most follow a 7-step procedure as summarised by Plan International in its guidelines for defining innovative solutions to the challenges of universal birth registration (Plan International, 2017). Firstly, the birth attendant notifies the Civil Registrar of the birth via a formal process. In some countries, this step may be merged with the declaration of birth or may not exist. The second step is the declaration of birth by an informant, usually the parent, through the presentation of a medical certificate of birth or formal proof of birth occurrence to the Registrar. Thirdly, the supporting documentation provided by the informant is validated by the Registrar. Once validated, the Registrar registers an official and permanent record of the existence and characteristics of the birth in the registry and issues a birth certificate containing the information from the record, including the individual's name, parents' names and nationalities, date and place of birth. Step six concerns the storage of birth records in paper or digital format. Finally, the birth record should form the foundation for other fundamental

registries such as the National Population Registries and identification systems (Plan International, 2017).

A case study conducted by the World Bank on various country arrangements in moving towards a DBR demonstrates four broad contexts in which digital technology is commonly incorporated, namely birth notification, birth registration, civil record, and the issuance of birth certificate (Dharwadker and Mills, 2019). Digitalising the birth notification process would involve notifying the civil register electronically of the birth (Dharwadker and Mills, 2019). Registration can be digitalised through the use of digitised forms on websites or mobile applications. This can be contrasted with walk-in registration, where parents fill up paper registration forms and subsequently visit a registry office, which is the case in Malaysia. The digitalisation of civil records entails storing birth data in a digital repository, with some countries linking it to various other databases such as the healthcare system (Dharwadker and Mills, 2019). Lastly, a digital birth certificate serves as a digital credential that contains personal information such as the person's name, date and place of birth, parents' particulars, and medical particulars at birth (Dharwadker and Mills, 2019).

Digitalisation of the birth registration process in Malaysia takes the form of an online pre-registration form at MyGovernment Portal, an e-portal for government services related to life events for citizens and non-citizens (MyGOV, 2022; NRD, 2021a). This digitised system serves to speed up the in-person registration process at the NRD counter, as the birth data and other relevant information need not be logged digitally into the system again. Currently, the process is optional and only available for births inside a health facility (NRD, 2021b). Another aspect of digitalisation is the introduction of the online appointment system through the MyJanjiTemu platform in response to the pandemic (Vanar, 2020). In Sabah, all NRD operations took place based on prior appointments and strictly no walk-in registrations were allowed during the pandemic (Inus, 2020). Moreover, e-payment (debit or credit card) was made the only payment option at the registration counters to reduce physical contact and cash transactions (CESF Consortium, 2021).

2. Material and methods

This study was conducted using various online databases such as LexisNexis, Westlaw, JSTOR and Google Scholar for journal articles on birth registration published between 2015 and 2021 using the following search terms: birth registration / stateless / refugees/ Malaysia/ migrants and SDG 16.9. Relevant websites and media articles were reviewed to identify reports on civil registration and the digitalisation of civil registration.

To perceive the risks and benefits of a potential DBR system for the vulnerable population under study, the themes for the questions were structured to make connections with the main concepts of universal access to birth registration and the digitalisation of birth registration system. For this purpose, the researchers adopted Plan International's Step-by-step Guide for Identifying and Addressing the Risks to Children in DBR Systems as the conceptual framework. Building on its DBR model developed as part of its "Count Every Child" initiative and within the broader context of strengthening CRVS systems, the guide offers valuable insights on potential dangers to children that could emerge across the DBR system in low-to-middle-income countries. We draw upon and extend Plan's guide to model the risks of DBR to the marginalised communities in Malaysia. Among the key risk factors identified by Plan, we focus exclusively on the risk of exclusion, mainly because this study intends to evaluate the effects of digitalisation on birth registration accessibility among vulnerable communities. We identify that the key contexts of the DBR system which may give rise to the risk of exclusion of the marginalised communities include the legal framework regarding birth registration, immigration, and health sector patient privacy and confidentiality, the systems context, namely access to key resources like healthcare and technology among the marginalised communities, and individual respondents' capabilities and motivations in accessing the

birth registration.

Semi-structured online interviews were conducted with fourteen (14) community-based organisations and community leaders representing the marginalised communities using a mixture of close-ended and open-ended questions. The respondents were anonymised as their identification could lead to the identification of a particular person or case (Liew, 2019). Anonymised identification codes were assigned to all 14 interviewees which included a number and an alphabetical code ('CBO P' for community-based organisations in Peninsular Malaysia, 'CBO S' for community-based organisations in Sabah). There is limited availability of respondents working with the marginalised communities, especially those with knowledge of birth registration among the populations. Despite the small sample size, the number was sufficient as the data began to saturate at the 14th interview. The data collected were coded manually based on the themes structured above. Content analysis was then conducted to capture the perceptions of the respondents, and this was followed by methodological triangulation with the findings from the literature. General inferences were drawn upon the responses, which were primarily in English and Malay languages to appraise qualitatively the situations in Sabah and Peninsular.

3. Barriers to existing birth registration system in Sabah and peninsular Malaysia and impact on DBR

3.1. Legal framework

3.1.1. Inconsistent policies and lack of confidentiality on parents' legal status

While statutes create an enabling environment for universal birth registration, conflicting immigration policies and enforcement practices create significant gaps in ensuring birth registration for all. One of the key principles is the principle of confidentiality (UN DESA, 2014). Yet existing policies demonstrate a lack of confidentiality regarding the parents' irregular status in health facilities and NRD offices. This deters access to healthcare due to fear of arrest, detention and deportation.

The MOH Circular 10/2001 has compelled medical personnel to report undocumented individuals to the authorities under Section 56 of the Immigration Act 1959. The government hospitals may have police and immigration counters located on their premises (Loganathan et al., 2019). Therefore, fear of apprehension constitutes a significant barrier to healthcare among the marginalised communities (Lau, 2020). Many undocumented Rohingya have reported avoiding treatment at public hospitals for this reason (Barua et al., 2019; Equal Rights Trust, 2014).

Existing literature shows that enforcement actions had been taken against undocumented prospective mothers who seek maternal healthcare at government hospitals. According to Lau (2020), one patient was arrested and detained for two months when she visited a public clinic to register her pregnancy in her final trimester. The UNHCR recorded 15 to 20 such cases in just one month in 2014. (Equal Rights Trust, 2014; Verghis, 2014)

In Peninsular Malaysia, refugees holding UNHCR cards are entitled to register their children and not to be arrested unless they commit criminal offenses following National Security Council Direction No. 23 (Arahan MKN 23) of 2009 (Government of Malaysia, 2017). Yet implementation is often inconsistent and discretionary (Asia Pacific Refugee Rights Network, 2018). This is exemplified during the pandemic, where raids were still conducted on apartments and worksites to locate and arrest undocumented migrants - despite assurances given by the government that no arrest will be made against irregular migrants coming forward for COVID-19 screening and vaccinations (Fishbein and Hkawng, 2021). Consequently, many marginalised individuals remain apprehensive to initiate the registration process at the NRD offices. This is especially so during the pandemic, where over 800 roadblocks were set up across the country to ensure COVID-19 Standard Operating Procedures (SOP) compliance (Chung, 2021). According to CBO S3, birth registration was affected during the pandemic partly because members of the marginalised populations were reluctant to leave the house for fear of enforcement.

The digitalisation of birth registration process through online registration can mitigate this barrier by removing the need to visit the NRD. Nevertheless, the mistrust towards governmental agencies due to the detrimental consequences of data sharing and contact with health facilities may extend to DBR risking exclusion of the marginalised communities from the system.

3.1.2. Documentation requirements for birth registration

The universality principle of birth registration is often impeded by the complex administrative requirements in terms of documentation, which differ vastly for non-citizens. Access to birth registration is undermined by the marginalised communities' inability to produce the required documents (Mohamed Razali et al., 2015). Consistent with the finding by Allerton (2017), the survey conducted by the researchers revealed that children in Peninsular Malaysia and Sabah lack birth certificates mainly because their parents do not have the recognised legal documentation, particularly, a passport or valid ID card, or marriage certificate. Without documentary evidence of one's legal identity, the marginalised groups can neither go to their respective embassies nor the NRD to register the birth of their child (Lumayag, 2016). Further, many migrant workers do not register their marriages, as they are prohibited by law to marry or have children while holding their temporary work permits (Pak, 2015; Nisa, 2018).

Some marginalised communities are denied healthcare for want of legal documentation (Loganathan et al., 2019), resulting in their inability to acquire medical documents compulsory for birth registration like birth confirmation forms or prenatal cards. CBO P4 in Sabah remarked that the marginalised populations cannot get treatment in public hospitals without proper identification documents such as passports, birth certificates, or UNCHR Cards, whereas a majority of the respondents in Peninsular Malaysia lamented the same except for emergency treatment. In Sabah, home births prevent many irregular migrants or stateless individuals from securing the full set of medical documents (Cheong and Baltazar, 2021). Most out-of-system births are predominantly due to financial constraints. Other barriers include a preference for traditional medicine practices among the Bajau Laut communities (Wan Hassan and Peters, 2020), lack of complete documents and a complicated application process. Indeed, many parents gave up when the process became too complicated and costly, especially for late registration of births which requires even more documents (Baltazar et al., 2019).

CBO P6 explained that its organisation had issued community cards or marriage certificates for parents to present for birth registration purposes, which had been accepted by some officers at the NRD. In contrast to in-person registration which may permit documentation flexibility (Liew, 2019), highly automated processes and requirements in DBR may nonetheless risk further excluding the marginalised communities unable to present standard identification documents and parental authentication (Plan International, 2015).

3.1.3. Classification of birth registration as non-essential services during COVID-19

The COVID-19 pandemic has also created new barriers to birth registration at the systems level, primarily the classification of birth registration as a non-essential service. Despite urges by international organisations for civil registration services to continue during the pandemic, 17% of the 61 countries of the UNLIA questionnaire classified birth registration as a non-essential service (UNLIA Task Force, 2020; UNESCAP, 2021a; AbouZahr et al., 2021). In England and Wales, for example, the Health Protection (Coronavirus, Restrictions) (England) Regulations 2020 deprioritized birth registration and put registration of other vital events on hold, causing backlogs and severe delays to birth registration (CESF Consortium, 2021; Gillett, 2020).

Malaysia is among the countries that do not list CRVS services as

essential according to the Prevention and Control of Infectious Diseases (Measures Within the Infected Local Areas) Regulations 2020. All the NRD offices were closed during the lockdown from mid-March to mid-May 2020 before the introduction of online appointments via the MyJanjiTemu platform (UNESCAP, 2021b). This has translated into further challenges for the marginalised communities. Despite the 90-days extension of the birth registration period (Koya, 2020), the respondents explained that timely registration became more challenging due to difficulties in securing an appointment and/or the additional statutory declaration indicating COVID-19 as the cause of late registration. CBO P5 illustrated the challenges as follows:

It is difficult to get the statutory declaration (to support) late birth registration with the verification of JKKK (the organisation to administer a village headed by the village head).

CBO P4 recounted further complications faced by asylum seekers:

Parents need to wait for (birth registration) appointment and sometimes the JPN officers do not accept expired UNHCR document. (If) JPN Officers do not accept a new UNHCR letter then they (would) ask parents to bring the UNHCR card of the mother.

Indeed, a DBR would have minimised the disruption of services caused by the pandemic and removed the related barriers as evidenced in New Zealand, Armenia, and the Republic of Korea (UNESCAP, 2021a). However, a DBR would not facilitate inclusion of the marginalised communities due to documentary challenges described above and exclusion from healthcare facilities illustrated under 3.2.1. A DBR may also introduce barriers that are not otherwise present in a paper-based system. For one, limited access to technology including connectivity and adequate digital devices may compound existing barriers faced by the marginalised communities, as further detailed in 3.2.2.

3.2. Systems context

3.2.1. Access to key resources: healthcare

Financial challenges are identified as the key barrier to healthcare access among refugees and asylum-seekers in Malaysia (Chuah et al., 2019; UNHCR Malaysia, 2021) where 50% of the refugees reported that they can hardly afford user fees. While Malaysian citizens enjoy a government-subsidized public healthcare system, non-nationals are excluded from this public safety net. In the context of maternal healthcare, foreigners are charged around MYR 2,593 (USD 615) for normal delivery services, in stark contrast to a nominal fee of MYR 10 (USD 2) for nationals (Hospital Sungai Buloh, 2022). According to CBO P5:

Cost is a major issue. Now every test is charged and (the charges) are not affordable.

Although the MOH accords the refugees recognised by the UNHCR a 50% discount on the foreigners' rate at government hospitals (Equal Rights Trust, 2014), medical fees remain largely unaffordable, especially following the 100% increase in medical charges for foreigners in 2014 (Haigh, 2021; Legido-Quigley et al., 2020; Chuah et al., 2019). Furthermore, the subsidy is not available to unregistered refugees. CBO S4 remarked that parents in their community opt for home births "as hospital fees are too expensive" considering that they face "extreme poverty". Not only does this impact prospects for birth registration, but it also poses health threats to the mother and child (Haigh, 2021).

Plan International (2015) observed that the operating environment of DBR often presents the most inflexible constraints. Hence, unless access to essential healthcare is improved for the marginalised communities, the ability of the communities to benefit from birth registration would remain limited even if the services are digitalised.

3.2.2. Access to key resources: technology

The findings present early indicators that hindered access to technology poses a significant risk of excluding the marginalised groups in a DBR system. An online survey reveals that more than half of the respondents believe there is a disparity in internet accessibility between urban and rural areas and agree that a digital divide exists between the rich and the poor (Aminudin et al., 2020). This issue is acknowledged by the government in its development roadmap "12th Malaysia Plan" (12MP), stating that the "lack of accessibility is among the main factors contributing to the widening digital divide" (Malek, 2021).

The pandemic has exposed a severe digital divide between "well-resourced" and vulnerable families (UNICEF, 2020). The rollout of online registration for vaccination via MySejahtera - a mobile application developed to assist the government in managing and mitigating the COVID-19 outbreak is relevant to the study as it is analogous to a DBR system (Government of Malaysia, 2021). The primary data collection reveals that the top usage of digital devices among the marginalised communities during the pandemic is for COVID-19 vaccination. However, there remains a handful who do not use the MySejahtera application, citing reasons like not knowing how to use it, having no smartphones, or being illiterate.

The marginalised communities in Sabah are disproportionately disadvantaged as they are affected by both the social class and geographical digital divide. Anecdotal evidence of unstable or lack of internet connection in remote locations in Sabah can be illustrated by the story of Veveonah Mosibin, a university student who completed her online examinations in treetops where internet connection was more stable (UNICEF, 2020; Lee, 2020). Official data shows that Sabah has one of the lowest fixed broadband penetration rates in Malaysia at a mere 16.6%, while mobile broadband penetration rate is the lowest in the country at 78.8% (Hassan, 2021). The ability of parents to complete online forms using digital devices is inevitably hindered as conceded by the respondents in Sabah due to low coverage of the internet. CBO S2 singularly attributes the lack of access to digital devices and the internet to poverty experienced by the communities. A majority of the respondents in Sabah and the Peninsular respectively commented that the devices are however too basic and inadequate for online form submission or completion.

Another aspect of digitalisation that is relevant to DBR is digital payments. As noted earlier, the pandemic has prompted the introduction of cashless payment methods at the NRD offices to reduce physical interaction. If birth registration is digitised, there is a likelihood that online payment would also be incorporated into the system. Yet all interviewees from Sabah noted that the members of their community are unable to open a bank account. On the other hand, slightly more than half of the respondents in Peninsular Malaysia shared that the marginalised communities that they work with face a similar problem. Hence, a majority of them are unable to complete online transactions unless with the assistance of others such as community leaders, NGO representatives, and friends or relatives. If the birth registration including the related payment is digitalised, the marginalised families may therefore not be able to complete the registration due to the lack of the required payment method.

3.3. Individual respondents

3.3.1. Financial hardship

As the findings have shown so far, financial constraints pose a critical barrier to birth registration for the economically disadvantaged. Given their irregular status, the marginalised communities sustain on daily wages from informal employment and have limited to no savings. The pandemic has exacerbated their financial situation as many lost their jobs overnight (DHRPA, 2020). While normal birth registration is free of charge for all, the opportunity costs associated with registering a child's birth often disincentivize the marginalised groups from doing so. One respondent in Peninsular Malaysia remarked that the birth registration process is not the main barrier. Rather, the cost involved is too high, especially during the pandemic, when they became unemployed and had no transportation. For those living in rural areas of Sabah, birth registration is a costly undertaking as the NRD offices are concentrated in cities and towns. The potential loss of daily income also put off many, especially those whose wages depend on the amount of crop harvested,

from taking the time away from work to travel to the nearest civil registration office (Cheong and Baltazar, 2021). CBO S2 working with the undocumented and stateless in Sabah alluded both to the increased fear and cost of moving around following the pandemic:

Since the pandemic, the people are scared of going to the hospital, (they have to wait in) long queues, and there is an increased degree of apprehension of being detained when one leaves the house… the cost of transportation has also increased.

It is therefore highly likely that the marginalised communities may lack the financial capacity to purchase smartphones and data to fully participate in DBR. As pointed out by Netto et al. (2019), one of the barriers to using a smartphone was the cost of purchasing data, particularly for those not in employment. Netto et al. (2019) also found that lack of ID contributed to difficulties in purchasing SIM card.

3.3.2. Language barrier, literacy, and digital literacy

Language discordance constitutes another barrier to birth registration, especially among refugees and asylum-seekers. A study conducted by Chuah et al. (2019) identified language differences as significant barriers in the delivery of healthcare services to these communities in Malaysia. Communication challenges between healthcare providers and these patients arise at various stages of delivery (Chuah et al., 2019). Linguistic diversity, illiteracy and consumption of information via different platforms compound difficulties in communication of public health measure in Sabah for stateless communities. (Baltazar and Cheong, 2021; Liew, 2021)

Literacy rates amongst certain communities such as the Rohingya community are reported to be low (Tay et al., 2019). The language of the Rohingya is predominantly oral with no internationally recognised and standard script (Tay et al., 2019). As the Rohingya population makes up 57% of the total refugee population in Malaysia (UNHCR Malaysia, 2022), this would mean that a majority of the population would have difficulty registering the births of their children in digital format. Based on the findings of this study, CBO S2 and CBO S4 remarked that the parents in their communities are mostly illiterate, unable to converse in Bahasa Malaysia, and need to seek assistance from third parties for registration if DBR is introduced. When asked to suggest the types of digitalisation of birth registration and healthcare for their community, CBO P5 opined that digitalisation is unsuitable due to illiteracy amongst the marginalised populations.

Technological illiteracy may also contribute to the risk of excluding marginalised communities from DBR, as it influences the populations' understanding of DBR and their ability to participate fully in different stages of the programme (Plan International, 2015). More than half of the respondents each in Peninsular Malaysia and Sabah noted that they have assisted people in their community to complete digital forms or online transactions, emphasising that members of their community require external assistance to fill up forms online.

4. Conclusion and recommendations

Despite the potential of digitalisation in mitigating barriers to birth registration such as fear of apprehension from having physical contact with the authorities, travel expenses and opportunity costs, this research has demonstrated that most of the existing barriers faced by the marginalised communities will still be present in DBR. This is due to various factors inherent in the discriminatory and inconsistent policies, which place the vulnerable groups at an unfair disadvantage in accessing birth registration. Other factors include stringent documentary requirements, unequal access to key resources especially healthcare and technology, financial hardships, limited digital literacy and language-related barriers.

To fully understand the gaps and levels of inequalities faced by the marginalised communities, we recommend that an inequality assessment of special risk factors such as prohibitive healthcare costs, legal restrictions and irregular migration status be conducted, linking it to

actions and targets to achieve universal birth registration. The special risks of exclusion gathered through this inequality assessment could feed into the design of special procedures for birth registration that are inclusive for the marginalised communities under study. A hybrid system of over the counter and mobile services maintained alongside DBR is highly recommended to prevent disenfranchisement of those excluded by the digital process. There should also be economic incentives and measures to alleviate the existing barriers to birth registration. Enabling registration requirements that accept different combinations of verification methods can minimise exclusion in the first place.

Essential healthcare and birth registration services should be made available without fear of arrest, detention, or deportation. This would demand lifting the requirements for health or other essential service providers and humanitarian actors to report migrants in an irregular situation to the authorities. Establishing data protection mechanisms, such as firewalls and protocols to ensure data confidentiality and privacy of the end-users, can further reduce these structural barriers and increase trust in both digitised and non-digitised environment (IFRC, 2020). Finally, accessible facilitation hubs centres or field workers that reach out to the vulnerable communities are measures that should be considered to reduce environmental and economic barriers to technology, as well as gaps in digital literacy (UNESCAP, ADB and UNDP, 2021).

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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