

Association for Information Systems

## AIS Electronic Library (AISeL)

---

AMCIS 2022 Proceedings

SIG SI - Social Inclusion and Socio-Technical  
Issues

---

Aug 10th, 12:00 AM

### A Preliminary Examination of Power Relationships' Influence on Reducing the Digitally Marginalized Student Population in Jamaica.

Kimberley Hemmings-Jarrett  
*Penn State University (Abington)*, kkh5516@psu.edu

Julian Jarrett  
*University of Technology, Jamaica*, jnjarrett@lutron.com

Jasmin Hylton  
*University of Technology, Jamaica*, jazhylton@gmail.com

Shemar Williams  
*University of Technology, Jamaica*, shemarwilliams94@gmail.com

Yanelle Campbell  
*University of Technology, Jamaica*, ycbell11@gmail.com

Follow this and additional works at: <https://aisel.aisnet.org/amcis2022>

---

#### Recommended Citation

Hemmings-Jarrett, Kimberley; Jarrett, Julian; Hylton, Jasmin; Williams, Shemar; and Campbell, Yanelle, "A Preliminary Examination of Power Relationships' Influence on Reducing the Digitally Marginalized Student Population in Jamaica." (2022). *AMCIS 2022 Proceedings*. 10.  
[https://aisel.aisnet.org/amcis2022/sig\\_si/sig\\_si/10](https://aisel.aisnet.org/amcis2022/sig_si/sig_si/10)

This material is brought to you by the Americas Conference on Information Systems (AMCIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in AMCIS 2022 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact [elibrary@aisnet.org](mailto:elibrary@aisnet.org).

# A Preliminary Examination of Power Relationships' Influence on Reducing the Digitally Marginalized Student Population in Jamaica

*Emergent Research Forum (ERF)*

**Kimberley Hemmings-Jarrett, PhD**

Penn State University, Abington  
Kkh5516@psu.edu

**Julian Jarrett, PhD**

University of Technology, Jamaica  
Julian.jarrett@utech.edu.jm

**Jasmin Hylton, Shemar Williams, Yanelle Campbell**

University of Technology, Jamaica  
jasminahylton, shemardwilliams, yanellejcampbell  
@students.utech.edu.jm

## Abstract

The Digital Divide has historically been viewed as the separation of people from technology based primarily on socio-economic issues and other demographic vulnerabilities. More recent studies have expanded research into investigating the impact of other societal structures such as the power of the government on equitable distribution of Information & Communication Technologies (ICTs) and other resources to the digitally marginalized population. While many strides have been made, educating children in the post-Covid era has made resolving the Divide a more pressing issue for students living in developing countries like Jamaica, where pre-pandemic, technology in education was still in its infancy. Using the Grounded Theory methodology, this research introduces preliminary findings demonstrating four power-relationships that have the power to and the power over effectively bridging the Divide and amongst the youngest of the digitally marginalized population and its effect on state-sponsored initiatives such as the OYOD.

## Keywords

Digital Divide, Power-relationships, Education, Jamaica, OYOD, Digitally Marginalized.

## Introduction

The Digital Divide (divide) is characterized as the disparity that exists between subgroups of society with limited versus full access to Information and Communication Technology (ICTs) (Gorski, 2005), those that have access but lack the digital competence to effectively use it (Valu, 2021), and primarily affects members of vulnerable communities such as the poor, rural dwellers, elderly, and persons with disabilities (UNESCO, 2019). Within the context of this paper, these individuals will be referred to as the *digitally marginalized*.

The COVID-19 pandemic has further exacerbated the divide globally (Ramsetty and Adams, 2020). With nationwide lockdowns, isolation and containment measures imposed by governments, ICTs became even more integral as in person interactions were public health risks (Lai and Widmar, 2021). Globally, education was one such sector that was forced to transition to remote modalities (Ali, 2020). This scenario is problematic especially for developing countries. Pre-pandemic, Hemmings-Jarrett et al (2019) found that 73% of students surveyed from developing countries indicated that they had little to no exposure to technology in their "traditional classrooms". As a pre-emptive measure, the Jamaican government launched the "Own Your Own Device" (OYOD) program providing e-vouchers to families with school aged children,

redeemable at designated retailers, towards the purchase of a device to support remote learning (Angus, 2021; Williams, 2021). With the two primary criteria for voucher eligibility being income and affordability of the parent/guardian (Angus, 2021; Williams, 2021).

The preliminary findings in this work suggest that final purchase decisions extended beyond the redeemer's income or affordability; for this reason, this research focuses on the antagonistic nature in power-relationships and their potential impact on effectively bridging the Digital Divide for the youngest of the digitally marginalized population in Jamaica. Recognizing in this scenario, that the most powerless of the digitally marginalized population, the children, are subject to the decisions of those with the power. Power relationships are described as relationships governing interactions between individuals or within a group, usually outlining a hierarchy of control or command (Moss, 2002). Findings in this paper can be used to inform public ICT policy within the Jamaican education system and other developing nations with similar concerns, with respect to structuring the OYOD or similar programs.

## **Related Literature**

### ***Own Your Own Device***

There are several attempts globally by governments to close the Digital Divide amongst digitally marginalized students as it pertains to COVID-19 induced remote learning modalities (Blackman, 2021; Lucas, Nelson and Sims, 2020). One such program, the OYOD device program initiated by the government of Jamaica in December 2020. It was created to incentivize the purchase of a laptop or tablet to support remote learning for school aged students not eligible for other programs. Parents of eligible aged children, who satisfied the income criterion would be eligible to apply for a voucher redeemable at an approved retailer. These devices were required to satisfy the government's technical specifications to support remote learning. The government allocated \$4.86 million USD with an initial target of benefitting 36,000 applicants at \$135 USD per voucher (Angus, 2021).

Within 4 months of launching phase 1 of the OYOD program, ~95% of expected applications were received with 71% of those being approved and another 5% pending approval. Roughly 32% of the funding was used (Williams, 2021). In part due to the low redemption rate, phase 1 concluded in December 2021 and phase 2 was launched at the end of January 2022. Noteworthy change included an increase in voucher contribution reducing the parent payout; no other societal factors were considered germane to purchasing decisions. It is reasonable to presume that the phase 2 will not improve dramatically, failing to reduce the Digitally Divide significantly or in reaching the intended student recipient.

### ***Power Relationships & Digital Divide***

Moss (2002) asserted that social institutions establish dominance and disadvantages those powerless to the social arrangements. Readers are encouraged to understand social power, but to recognize that power is a relational paradigm. Examples like playing chess and fields of magnetism demonstrates that the sum of the parts creates the *power-over* the subjects. Each actor has an individual *power-to* do or be, but the aggregation of all those who have that power-to, cumulatively exalt *power-over* the most vulnerable. Although characterizations were extended to geographical government structures and philosophies, the concept is applicable to micro-level familial structures (Moss, 2002).

Kvansy & Trauth (2003) investigated the impact of race and gender on an individual's access to technology. They found that race and gender divides affect the individual's willingness to participate in ICTs. Those unwilling would "remove themselves" from technological spheres, through "voluntary self-exclusion" or "militant resistance", leaving the more powerful to monopolize it.

While both pieces of research presented novel ideas on the group and individual power structures, there remains a gap in the discussion. Kvansy & Trauth (2003) recognized personal decisions only affected individual participation while Moss (2002) discussed government power over other governments and their citizens' collective access. However, neither research addressed the potential transferability of the *power-over* scenario from individual to individual within the same marginalized community or the compounding effect of varying power groups.

## Methodology

To explore the role power relationships have on OYOD voucher redemption and the potential impact on successfully bridging the divide, the research was separated into two phases. This paper only focuses on phase 1.

### Phase 1-Observation

This research employed an ethnographic case-control observational study in phase 1 between June 8, 2021-January 18, 2022. A convenience sampling of the digitally marginalized in-store redeemers was chosen because the OYOD vouchers were only redeemable in-store. One urban participating store, in a centralized location was chosen based on the prevalence of foot traffic and pre-existing professional relationships. The observation was conducted by 1 research team member with annotated notes made at the end of each client’s visit.

### Grounded Theory

Following the work of Charmaz (2006), the Grounded Theory methodology employed was 4-fold. At the close of the observational data collection, the 15 observations were split amongst the team members for *in-Vivo “in the voice of”* coding. This was followed by individual *Initial category extractions*, then by team *intermediate coding and core category selection*. The penultimate process of grouping similar code categories resulted in *Advanced theming and narrative building*.

## Preliminary Findings & Discussion

During initial coding, a word cloud was generated to show the most frequently used terms. This showed that tablets were the most frequently discussed device, unsurprisingly because it was the least expensive option in part because it was on sale at the participating retailer. Observed subjects were also concerned with the balance owed and brand preferences (Samsung vs. Alcatel), along with accessories. A mind map was generated during advanced coding to ascertain the emerging themes and their potential individual *power to influence* and *collective power over* final buying decision. Because of page restrictions samples of the mind map are displayed below.

### Government Power to:

Figure 1 shows the 1st layer of power, i.e., Government. Since they set the eligibility criteria and are also responsible for properly communicating these requirements to their citizens. Many parents expressed general discontent towards the government for reasons like, a) insufficient voucher funding: Parents who opted against purchasing devices expressed that the “government should pay it all” or at least cover more of the cost to acquire the desired device with accessories. B) Restricting device choices based on technical specifications. C) Not facilitating greater access to participating stores in rural areas.

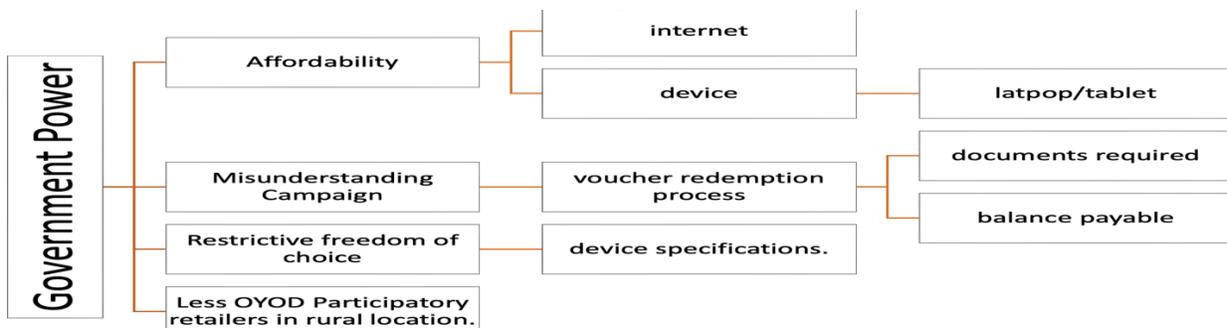


Figure 1 Mind-map Extract of Government Power

### Retail Power to:

The 2nd layer of power came from the participating retailers. The retailers execute the OYOD program. They stock the government specificized devices (and alternatives) and they control where (i.e., store

location) the devices can be accessed and the final prices. The customers expressed frustration at feeling forced to purchase the Alcatel device simply because it met the government specifications and was the brand on sale instore.

**Cultural Power to:**

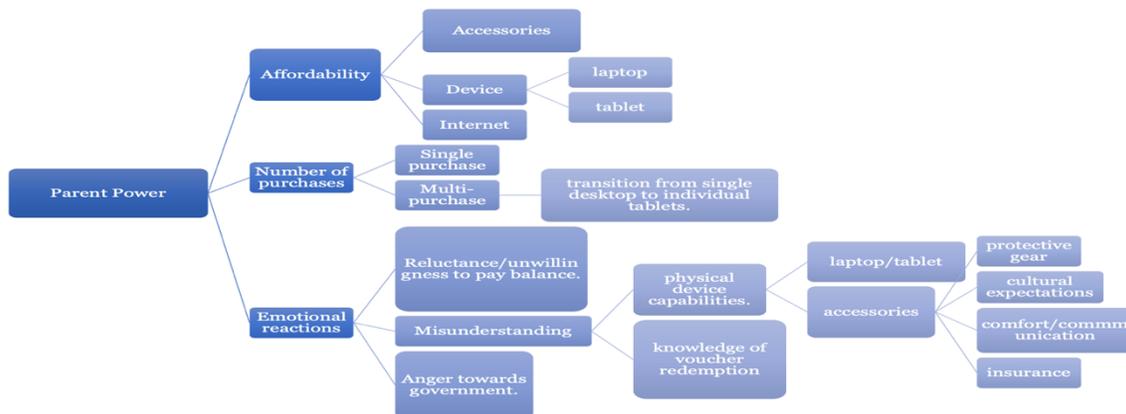
The 3<sup>rd</sup> layer of power comes from the larger society. There was evidence that parents desired to ‘fit in’, revealed through brand and device preference. Many parents intended to buy the more popular device/brand, i.e., Samsung vs Alcatel or tablet vs laptop but some delayed purchasing the cheaper, less popular brand, that held similar functionality in favor of waiting to afford the more popular option.

Choosing popularity over functionality also has the potential to impact classroom involvement. Although, teachers were not sampled in this investigation, certain inferences could be made based on existing cultural norms. The traditional classroom experienced by most students in developing countries like Jamaica pre-pandemic had student notetaking and assignment turn-in predominantly handwritten. Pre-pandemic, traditional non-technological classrooms and teaching styles were normal in developing countries such as Jamaica (Hemmings-Jarrett, 2019). Post-pandemic, many parents and the government may not have considered the implications of choosing/offering a tablet over a laptop for the student. Tablets would potentially only facilitate the student’s attendance but could restrict their full participation. Compounded by not purchasing supportive accessories like headphones for quiet and focus, styluses to facilitate more familiar handwriting experiences or keyboards to complete and turn in assignments in a timely manner, the Digital Divide may persist if the teacher-student expectations were not also addressed.

**Parent Power to:**

Lastly, parent-power; They have considerable power-over what devices if any their children will have access to. Their buying decisions were influenced by factors outside of affordability, although affordability was a big consideration (see Figure 2). Parents who were unwilling or reluctant to complete the purchase expressed anger (primarily towards the government for not considering the add-on costs) and reluctance (to pay the remaining balance); both related to their misunderstanding of either how the voucher program was intended to work or the value in purchasing alternatives and additives.

Though infrequent, there were parent redeemers who arrived in store knowledgeable of all the device capabilities and the importance of additional accessories including insurance plans. These redeemers purchased the full suite of technology without trepidation suggesting potentially that those parents were more technology informed, higher educated or within a higher socio-economical bracket of affordability, all requiring further investigations.



**Figure 2 Mind-map Extract of Parent Power**

## Conclusion

To combat post-pandemic effects of the Digital Divide on the youngest learners in Jamaica, the government instituted an Own Your Own Device (OYOD) initiative. This well-intentioned initiative appears to be missing the main target, to equip the digitally marginalized students, as the government did not consider non-financial deterrents to purchase, like power dynamics.

After 6 months of ethnographic observations, it can be reasonably concluded that social power dynamics has an impact on buying decisions and adversely affects digitally marginalized students. This research found that before the device can reach the intended user there are four layers of powerful actors that would need to work in concert. These include *Government Power* to acknowledge and address non-financial factors in criteria setting and program education. *Retailer Power* in diversifying affordable and popular inventory across store locations especially in rural locations. A heightened awareness of *Cultural Power* on what is bought and how it is used. Finally, *Parent Power* on making informed decisions, knowing that not making a purchase or making a less than ideal purchase affects the child's ability to fully participate in remote learning activities.

None of these powers are mutually exclusive neither were they evaluated for greater impact one over another, as this is emergent research, and may be resolved in future research. If the children truly are the future, then equal focus must be placed on the power of societal structures as barriers to their access and effective participation in a technologically advancing world.

## REFERENCES

- Ali, W. (2020). "Online and remote learning in higher education institutes: A necessity in light of COVID-19 pandemic." *Higher education studies*, 10(3), 16-25.
- Angus, G. (2021). "Rollout of OYOD Next Week." *Jamaica Information Service*.  
<https://jis.gov.jm/rollout-of-oyod-next-week/>
- Blackman, S. N. (2021). "The impact of Covid-19 on education equity: A view from Barbados and Jamaica." *Prospects*, 1-15.
- Charmaz, K. (2006). "Constructing grounded theory: A practical guide through qualitative analysis." sage
- Gorski, P. (2005). "Education equity and the Digital Divide." *AACE Review (Formerly AACE Journal)*, 13(1), 3-45.
- Hemmings-Jarrett, K., Jagannath, S., Jazayeri, A., & Agosto, D. (2019). "We Need More Than Laptops!" Technology Assistance for Transitioning International Students. In *Conference Companion Publication of the 2019 on Computer Supported Cooperative Work and Social Computing* (pp. 216-220).
- Kvasny, L., & Trauth, E. M. (2003). "The digital divide at work and home: the discourse about power and underrepresented groups in the information society." In *Global and organizational discourse about information technology* (pp. 273-291). Springer, Boston, MA.
- Lai, J., & Widmar, N. O. (2021). "Revisiting the Digital Divide in the COVID-19 era." *Applied economic perspectives and policy*, 43(1), 458-464.
- Lucas, M., Nelson, J., & Sims, D. (2020). "Schools' Responses to COVID-19: Pupil Engagement in Remote Learning." *National Foundation for Educational Research*.
- Moss, J. (2002). "Power and the Digital Divide." *Ethics and Information Technology*, 4(2), 159-165.
- Ramsetty, A., & Adams, C. (2020). "Impact of the Digital Divide in the age of COVID-19." *Journal of the American Medical Informatics Association*, 27(7), 1147-1148.
- UNESCO. (2019). "Digital Technologies for the inclusion of disadvantaged communities and marginalized groups supported by IFAP." <https://en.unesco.org/news/digital-technologies-inclusion-disadvantaged-communities-and-marginalized-groups-supported-ifap>
- Valu, M. (2021). "Understanding the Digital Divide and ensuring access for all." *HIMSS*.  
<https://www.himss.org/resources/understanding-digital-divide-and-ensuring-access-all>
- Williams, F. (2021). "Statement To The House Of Representatives By Honorable Fayval Williams Minister of Education, Youth and Information May 19, 2021." *Jamaica Information Service*.  
<https://jis.gov.jm/speeches/statement-to-the-house-of-representatives-by-honourable-fayval-williams-minister-of-education-youth-and-information-may-19-2021/>