

2020

## Australia's Embrace of a Cashless Society

Yuk-Tung Tonnie Lam  
*Macquarie University*, yuk-tung.lam@hdr.mq.edu.au

Peter Busch  
*Macquarie University*, peter.busch@mq.edu.au

Stephen Smith  
*Macquarie University*, stephen.smith@mq.edu.au

Follow this and additional works at: <https://aisel.aisnet.org/acis2020>

---

### Recommended Citation

Lam, Yuk-Tung Tonnie; Busch, Peter; and Smith, Stephen, "Australia's Embrace of a Cashless Society" (2020). *ACIS 2020 Proceedings*. 70.  
<https://aisel.aisnet.org/acis2020/70>

This material is brought to you by the Australasian (ACIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in ACIS 2020 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact [elibrary@aisnet.org](mailto:elibrary@aisnet.org).

# Australia's Embrace of a Cashless Society

## Research-in-progress

### **Yuk-Tung Tonnie Lam**

Department of Computing  
Macquarie University  
North Ryde NSW 2109, Australia  
Email: yuk-tung.lam@hdr.mq.edu.au

### **Dr Peter Busch**

Department of Computing  
Macquarie University  
North Ryde NSW 2109, Australia  
Email: peter.busch@mq.edu.au

### **Dr Stephen Smith**

Department of Computing  
Macquarie University  
North Ryde NSW 2109, Australia  
Email: stephen.smith@mq.edu.au

## **Abstract**

The current research-in-progress paper seeks to determine whether Australia is ready to embrace digital payments for all business transactions. We investigate the rising trend of digital payment methods instead of cash. Then we discuss the government policies on digital payments and examine the current state of the adoption of cashless transactions. A list of cashless society readiness indicators is established, and data from Global Findex database, government policies and public comments and financial and commercial commentaries is used to highlight the readiness for the adoption of a near cashless society. We will adopt a mixed-method approach along with activity theory, to interpret data from the aforementioned databases and policy documents to understand to what degree and over what period of time, Australia becomes a cashless society. We also include a preliminary research model of our study moving forward.

**Keywords** Cashless Society, Digital Payments, Lexical Analysis, Mixed Method Approach, Activity Theory

## 1 Introduction

Countries have used digital currencies as a major payment method for business transactions in recent years. Labelled the next revolution of financial transactions since the introduction of banknotes, digital payments have been widely accepted and demanded from consumers in different countries globally (Australian Payment Council 2015). The concept of a Cashless Society, as stated by Worthington (1995), replaces coins, banknotes and cheques, which are "clumsy and expensive to handle". Here we ask the question - *Is Australia ready to embrace digital payments for all business transactions at this stage?* The Australian government introduced substantial policies to promote alternative business payment methods since the mid-2000s (Garcia-Swartz *et al.* 2006). The recent introduction of the New Payments Platform (NPP) in 2018 led to a discussion on the readiness of having a "complete cashless society" (Edwards 2017). The exponential growth of mobile devices as the payment method enables consumers to pay for goods and services in any location in the world (Humbani & Wiese 2018). There are even credible predictions Australia would become a cashless society by 2020 (Holden 2018). In hindsight, as of 2020 we cannot yet claim Australia has completed the transformation to a cashless society. However, the spread of the COVID-19 pandemic forced countries to introduce new business practices, such as a limit on social distancing, closure of restaurants and bars and restrictions on the number of people in business premises, with work from home arrangements for most companies (Beck & Hensher 2020). The potential spread of disease via banknotes and coins also prompted the accelerated adoption of cashless payments in business transactions (Allam 2020). For some of these reasons, in this paper, we investigate current levels of preparedness in replacing cash with cashless technologies, along with the drivers and inhibitors in achieving a cashless society in Australia.

## 2 The Decline of Cash

Non-cash electronic payments recently gained momentum, with total transaction values of cards, credit transfers and electronic debits combined, increasing from 240 billion in 2008 to a projected total of around 550 billion by 2018 (Australian Payment Council 2015). Direct debit and credit/debit cards also replaced physical payment methods at an increasing rate (Finance Monthly 2017). At the same time, cash constituted 19% of Australia's total payments in 2019 (Delaney *et al.* 2019). Similarly, there has been a decline of cheque payments in Australia at a rate of between 14-16% per year (Australian Payment Council 2015). Figure 1 illustrates the number of transactions per capita by year in Australia in 2018. From 2016-17, the percentage of card payments in Australia increased to 52% of total business conducted, compared to 37% of payments by cash, in a consumer survey conducted by the Reserve Bank of Australia (RBA) (Doyle *et al.* 2017). There is also a trend toward an increase in the proportion of non-cash payments for commercial transactions (Payment Systems 2020) when examining RBA surveys on consumer payment methods in Australia from 2007 to 2016 (Figure 2). The increasing demand for non-cash business transactions by consumers, in turn, drives the need to replace cash transactions and implement a full cashless payment system globally.

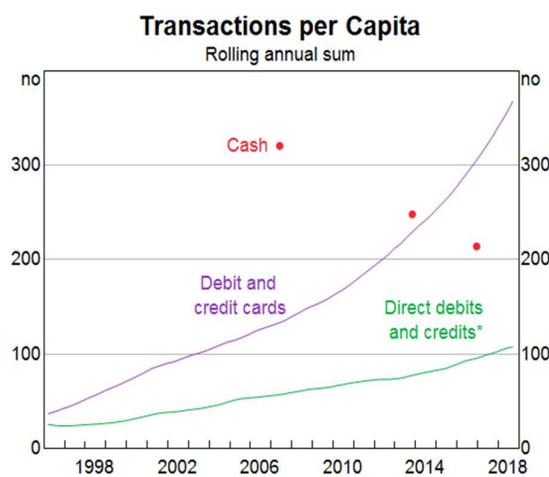
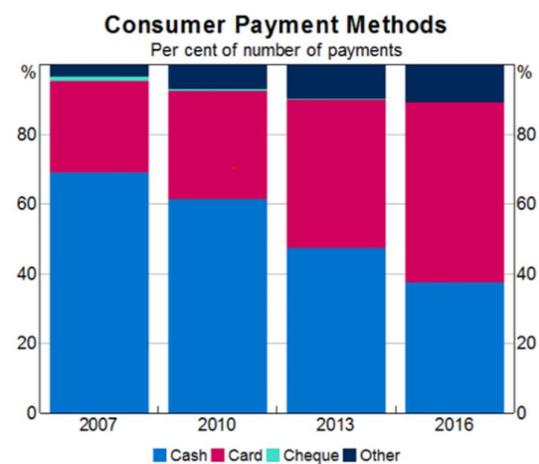


Figure 1. Number of transactions per Capita by Year (Lowe 2018)



Source: RBA calculations, based on data from Colmar Brunton, Ipsos and Roy Morgan Research

Figure 2. Comparison of Australian consumer payment methods 2007 to 2016 (Source: RBA)

### 3 Australian Cashless Transactions

The Australian government naturally plays an active role in the promotion of electronic payments, with the RBA as the official government body regulating financial payment systems. New regulations were introduced in 2017 to place a limit on transaction fee surcharges for each business transaction (McCauley 2017). The RBA also established a fast settlement platform to help Australia move money from one entity to another. The establishment of a New Payments Platform (NPP) along with the introduction of Pay ID provide a method to transfer monies between two parties instantaneously and smoothly, without the bank account details of each party (Reserve Bank of Australia 2018; PayID 2019). The data-rich nature of the NPP allows information exchanges between the parties of transactions to fulfil back-office payment clearing and settlement capabilities (NPP 2020). The NPP uses the new Fast Settlement Service (FSS) provided by the Reserve Bank to allow financial institutions to perform quick settlements over their Exchange Settlement Accounts (ESAs) (Rush and Louw 2018).

The motivation for implementing a market-oriented digital payment economy as listed in the final report from the Black Economy Taskforce (2017), possesses the following benefits: the payment system shall be more competitive; the cost of payments will be lowered; the quality of transaction data will be improved; a range of different types of payment method can be offered; the costs of handling physical cash such as storage cost, transportation and monitoring costs can be minimised; finally the potential risk of loss of cash due to theft and cash handling fraud can be reduced. As digital channels are more traceable and reportable, any potential fraud in business payments can be detected when compared with cash payments (Black Economy Taskforce 2017).

According to the RBA's Consumer Payment Survey in 2019, there was a year-on-year decline in the use of cash as a payment method. Cash payments constituted only 27% of all consumer payments in 2019, down from 37% in 2016 and 69% in 2007. In contrast, 63% of business payments used cards as the payment method with more than two-thirds of payments using debit cards (Delany et al. 2019). From RBA figures, it is clear Australians are moving away from using cash as the preferred payment method, toward becoming a fully cashless society. The Australian Payment Network (APN) is a self-regulated body formed by banks, major retailers, payment operators and other payment service providers. The payment systems regulated by APN covers 99% of all Australian non-cash payments by volume and value. In response to the RBA's Consumer Payment Survey in 2019, APN listed the reasons why Australia strongly embraced digital payments as the following: "the adoption of biometric authentication improved security levels of digital payments. The APN predicted by 2020 fingerprint authentication would be used by 60% of Australians for business payments. The high penetration of advanced point-of-sale (POS) terminals aids the growth of the digital payment network, with the ratio of 1 contactless POS terminal for every 25 Australians. Also, consumers saw the convenience of using 'tap and go' payments using a debit/credit card or a digital wallet, which reduced the need to make ATM withdrawals for cash payments. Some 91% of Australians owned a smartphone in 2019. The extensive ownership of smartphones eases purchase payments, with 60% of smartphone owners using them as digital payment tools. The New Payments Platform (NPP) introduced by the RBA provides another method for real-time money transfer between banks accounts" (Australian Payment Network 2019).

Despite the constant decline of cash for business payments, the demand for banknotes has not significantly reduced through the years. The \$100 notes have been used more as a store of value by individuals, tourists and international banks and investors (Black Economy Taskforce 2017). The value of banknotes issued by RBA has been the highest in 50 years relative to the size of the economy, and it is clear there is "an apparent paradox between the declining use of cash and the rising value of banknotes on issue" (Lowe 2018). As stated by researchers at MyState Bank, the use of cash cannot be eliminated completely, for people who are elderly, homeless or with a disability would find it hard to adapt to cashless payment methods (Watson 2020). Hence a model is needed to measure the readiness of a society to become fully cashless.

### 4 Research approach

The purpose of the research is to study the current level of preparedness in replacing cash and to identify the drivers and inhibitors in achieving a cashless society in Australia. To achieve these goals, we need some understanding of the philosophies potentially driving our data collection and analysis. According to Galliers (1991), the two dominant research paradigms for scientific studies in the western world are Positivism and Interpretivism. Saunders et al. (2015) expressed that a pragmatic approach is needed when selecting the correct methods for social science research to explore and answer the research question. The main aim is to get the optimal mix of approaches to answer the question(s). The mixed-

method approach, as introduced in Creswell (2013), which combines qualitative and quantitative strategies, is used here while taking the advantages of each to study a complex social science issue (Recker 2012). This study is divided into two parts. The first part of our study adopts a quantitative method to analyse survey data to determine the readiness indicators for the adoption of digital payment methods. The second part seeks to carry out a lexical analysis on a selected set of government and commercial documents to gain social opinions on the topics of the cashless society and the digital payment revolution. We will then combine the outcomes of the two analysed datasets to gain an integrated view on the readiness level in Australia to become a cashless society and the drivers and inhibitors to that end in Australia.

#### 4.1 Cashlessness through an Activity Theory lens

A Cultural-Historical Activity Model (Activity Model) is used as a lens for the interpretation of the cashless payment activities in Australia (Figure 3). Activity Theory provides a lens of understanding on the interactions between the subject, the object (or objective) and the outcomes, and helps us to understand the human mind and the activities of the study (Hasan & Kazlauskas 2014). The reader will note our activity theory model is comprised of rules such as government regulations, community being the Australian government, the Reserve Bank and other institutions. Also included in our model are tools such as payment methods, the division of labour, with the subject in question being the Australian public or consumers in general and the object under study comprising cashless payments. All of these parameters lead to the likely outcome of a cashless society.

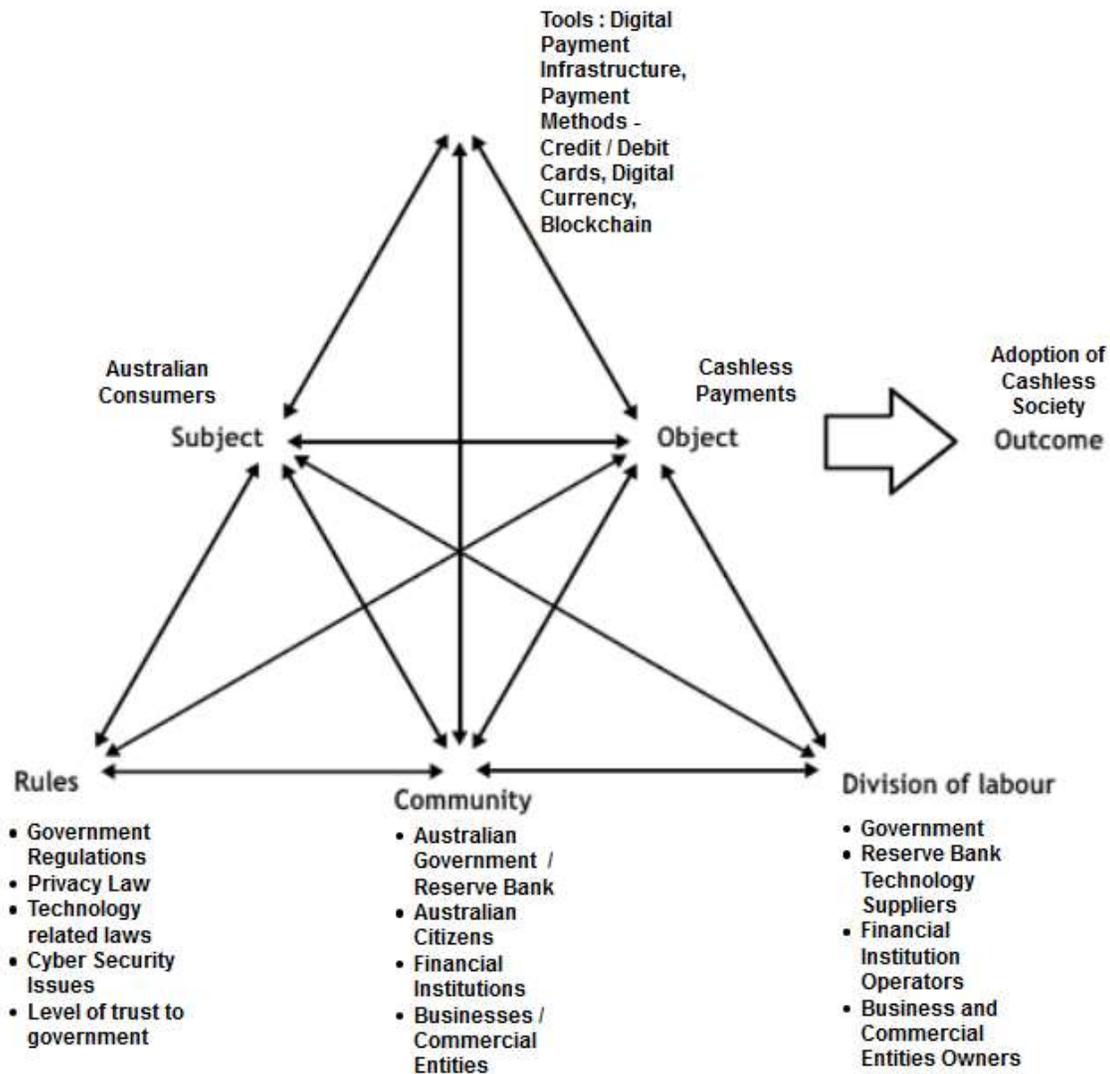


Figure 3. A Cultural-Historical Activity Model for the cashless payment activities in Australia

Based on the outcome of the Activity Model, we expect to obtain a more informed picture of the network involved making activities possible. This result can also aid in pinpointing issues that enable or hinder non-cash payment activities.

## 4.2 Cashless Readiness Indicators

In the current research, we seek to define the level of readiness of the adoption of digital payment methods. A report from the MasterCard Advisors (Thomas, Jain and Angus 2013) suggested the following indicators for the potential to move from cash-based payments to a near-cashless business environment: *access to financial services*, i.e. the level of availability and affordability of financial services and the use of bank accounts and digital payments; *macro-economic and cultural factors* or the measurements related to cultural and macro-economic satiation, including the level of cash usage, the convenience level of conducting business activities, and the size of the non-official economy; *merchant scale and competition* meaning the measurements on whether major merchants can take on new payment methods, as well as the level of competition between local businesses; and *technology and infrastructure* comprising indicators of the ability to access and adopt new technologies and innovations and the advancement of necessary infrastructure. The aforementioned readiness indicators influence the choice of data for the current research. Below are the proposed data sources.

### 4.2.1 Global Findex database

The Global Findex database by the World Bank with funding from the Bill and Belinda Gates Foundation was established to measure and promote financial inclusion status in countries around the world (Demirgüç-Kunt et al. 2018). The World Bank set a goal for universal financial access by 2020, along with the United Nations Sustainable Development Goals (World Bank 2020). Data in the Global Findex database was acquired through conducting surveys every three years with three sets of data collected in 2011, 2014 and 2017. A new survey result for 2020 is expected to be released by early 2021. Based on cashless readiness indicators in the previous section, the following quantitative datasets were selected to measure the current situation in Australia: bank account ownership, savings in bank account debit card ownership, use of the internet for banking, and finally the use of the internet for shopping. The datasets will be further analysed to compare the level of adoption between rural and non-rural areas. The same dataset category will also be compared between different years whenever possible, to gain insights on adoption levels through the years.

### 4.2.2 Lexical analysis

To better understand macro-economic and cultural aspects of the readiness of conversion to a highly cashless society will be through the latest opinions from Australian government officials and financial analysts. To achieve our goals, we will find documents from the following categories for lexical analysis: government policies and speeches: the RBA and government-related officials; financial and commercial speeches and commentaries, financial newspapers, discussion forums and major financial analysts. Text analysis using Nvivo will then be performed on documents to gain insights from unstructured and qualitative data for further analysis. Reports from different years will also be analysed whenever possible better to understand the progress of cashless payment preparedness across time. A diagram of a proposed cashless society readiness model for the research is illustrated in Figure 4 below.

## 5 Expected Results

From an initial analysis of the 2107 Global Findex database, we see gaps in the adoption rate of cashless transactions between metro and rural areas in Australia (Figure 5). A summary of the data from the 2107 Global Findex database is shown in table 1 below.

Type	Description	All	Rural	Non-Rural
A	Account (% age 15+)	99.52%	99.34%	99.54%
B	Financial institution account (% age 15+)	99.52%	99.34%	99.54%
C	Used the internet to pay bills in the past year (% age 15+)	68.09%	60.31%	69.00%
D	Used the internet to buy something online in the past year(% age 15+)	67.69%	60.41%	68.54%
E	Saved at a financial institution (% age 15+)	62.12%	54.14%	63.06%
F	Saved any money in the past year (% age 15+)	79.29%	76.87%	79.58%
G	Debit card ownership (% age 15+)	89.96%	85.85%	90.44%

Table 1. Australian Financial indicators (source: 2017 Global Findex Database)

The research conducted in this paper may be able to help close the gap of financial inclusion between the metro and rural regions in Australia. The same set of data will be used to compare to the Findex

databases from other years (2014 and 2020) to understand the trend of cashless adoption between metro and rural Australia throughout the years. It is expected from the Global Findex databases there would be an increasing trend toward ownership of bank accounts, use of the internet, saving levels and debit card ownership. On the other hand, from the lexical analysis of the government and commercial documents, we can expect there will be an increasing emphasis on the elimination of cash transactions and their replacement by new digital payment methods.

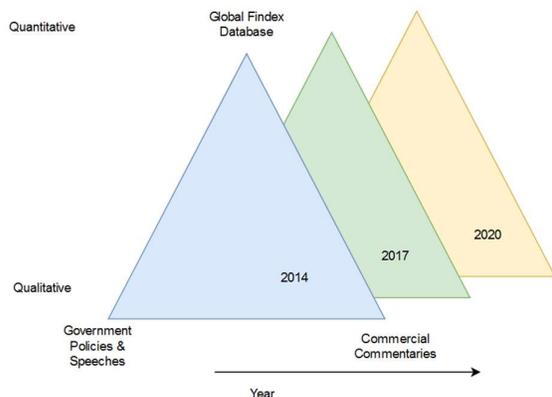


Figure 4. A Cashless Society Readiness Model

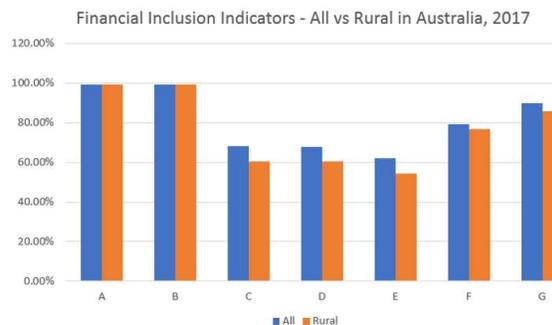


Figure 5. Financial Inclusion Indicators of Australia in 2017

(Source: 2017 Findex Database, World Bank)

## 6 Conclusion

We seek to examine the adoption of alternative means of payment in Australia in recent years as we predict a move toward Australian becoming a cashless society. As part of this study, we also seek to investigate Australia's readiness to embrace digital payments for all business transactions. We will adopt a mixed-method approach as this allows us to combine both quantitative and qualitative approaches to data collection and analysis. To acquire data for our study, the selection of commercial data sources, for example, the Global Findex database, government policies and speeches and financial and commercial commentaries, provide us with the raw data to gain insights. The aforementioned data sources will be both interpreted quantitatively and qualitatively. Statistics will allow the analysis of numerical data from databases. Still, we will also use software to analyse the qualitative data, as we expect government and banking policies will be better interpreted through textual analysis tools.

## 7 References

- Allam, Z., (2020). *The Forceful Re-evaluation of Cash-Based Transactions by COVID-19 and Its Opportunities to Transition to Cashless Systems in Digital Urban Networks. Surveying the Covid-19 Pandemic and its Implications*, viewed 2 November 2020 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7378511/> p.107.
- Australian Payment Council (2015). *Fact Based Australian Payment Plan*, viewed 26/10/2019, <https://australianpaymentscouncil.com.au/wp-content/uploads/2015/12/Australian-Payments-Plan-Fact-Base.pdf>
- Australian Payment Network (2019). *Australia's move towards a less cash economy*. Australian Payment Network.
- Beck, M.J. and Hensher, D.A., (2020). *Insights into the impact of COVID-19 on household travel and activities in Australia—The early days under restrictions*. Transport Policy.
- Black Economy Taskforce (2017). *Black Economy Taskforce Final Report*, The Treasury, Australian Government.
- Buzan, T. and Buzan, B., (2006). *The mind map book*. Pearson Education.
- Creswell, J.W., (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- Delany et al. (2019). *Cash Use in Australia: Results from the 2019 Consumer Payments Survey*. Reserve Bank of Australia.

- Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S. and Hess, J., 2018. *The Global Findex Database 2017: Measuring financial inclusion and the fintech revolution*. The World Bank.
- Edwards, M (2017). *Is Australia on the brink of becoming a completely cashless society?* ABC.net.au Website, viewed 26/10/2019. <https://www.abc.net.au/news/2017-03-27/is-australia-on-the-brink-of-becoming-cashless-society/8377288>
- Finance Monthly (2017). *The World's Top 10 Cashless Countries in 2017*, viewed 26/10/2019, <https://www.finance-monthly.com/2017/10/the-worlds-top-10-cashless-countries-in-2017/>
- Galliers, Robert. (1991). *Choosing Appropriate Information Systems Research Approaches: A Revised Taxonomy*. The Information Research Arena of the 90s. 155–173.
- Garcia-Swartz, D.D., Hahn, R.W. and Layne-Farrar, A., (2006). The move toward a cashless society: a closer look at payment instrument economics. *Review of network economics*, 5(2) pp.175-198.
- Hasan, H. and Kazlauskas, A., (2014). *Activity theory: Who is doing what, why and how*. University of Wollongong Faculty of Business Archive.
- Holden, R (2018). Welcome to cash-free Australia, University of NSW Website, viewed 26/10/2019. <https://newsroom.unsw.edu.au/news/business-law/welcome-cash-free-australia>
- Humbani, M. and Wiese, M., 2018. A cashless society for all: Determining consumers' readiness to adopt mobile payment services. *Journal of African Business*, 19(3), pp.409-429.
- Lowe, P. (2018). *A Journey Towards a Near Cashless Payments System*, Reserve Bank of Australia, 26 November 2018.
- McCauley (2017). *Excessive credit card surcharges are now illegal across Australia*, news.com.au, viewed 26/10/2019, <https://www.news.com.au/finance/money/costs/excessive-credit-card-surcharges-are-now-illegal-across-australia/news-story/d88cafbf97096fcc56f63951e388057f>
- NPP 2020. NPP - *The Platform* viewed 26/04/2020, <https://nppa.com.au/the-platform/>
- PayID (2019). *How does PayID work*, viewed 26/10/2019, <https://payid.com.au/#what>
- Payment System (2020), *Reserve Banks of Australia*. Viewed 26/10/2019, <https://www.rba.gov.au/payments-and-infrastructure/payments-system.html>
- Recker, J., (2012). *Scientific research in information systems: a beginner's guide*. Springer Science & Business Media
- Reserve Bank of Australia (2018). *The New Payments Platform and Fast Settlement Service*, viewed 26/10/2019, <https://www.rba.gov.au/publications/bulletin/2018/sep/the-new-payments-platform-and-fast-settlement-service.html>
- Rush, A. and Louw, R., (2018). *The New Payments Platform and Fast Settlement Service*. RBA Bulletin, September.
- Saunders, M., Lewis, P. and Thornhill, A. (2015). *Research methods for business students*. 7th ed. Pearson Education U.K.
- Thomas, H., Jain, A. and Angus, M., (2013). *The global journey from cash to cashless*. MasterCard Advisors' Cashless Journey, pp.1-15.
- Watson (2020). *Australians shun cash in 2020, but 70% still oppose a cashless society*. Mozo website, viewed 18 August 2020, <https://mozo.com.au/bank-accounts/articles/australians-shun-cash-in-2020-but-70-still-oppose-cashless-society>
- World Bank (2020). *Global Financial Inclusion (Global Findex) Database - About*. The World Bank, viewed 18 August 2020, <https://microdata.worldbank.org/index.php/catalog/global-findex/about>
- Worthington, S., (1995). The cashless society. *International Journal of Retail & Distribution Management*. 23(7) pp.31-40.

## Copyright

**Copyright** © 2020 Lam, Busch & Smith. This is an open-access article licensed under a [Creative Commons Attribution-NonCommercial 3.0 New Zealand](https://creativecommons.org/licenses/by-nc/3.0/), which permits non-commercial use, distribution, and reproduction in any medium, provided the original author and ACIS are credited.