



# THE AUSTRALIAN ENVIRONMENTAL SCAN

AN ASSESSMENT OF THE FEATURES ASSOCIATED  
WITH AUTOMATED AND DIGITALISED GAMBLING  
PRODUCTS

Ms Tess Armstrong, Professor Matthew Rockloff and  
Dr Phillip Donaldson

**Presented by Ms Tess Armstrong  
(PhD Candidate)**

EASG Malta September 2018



BE WHAT YOU WANT TO BE  
[cqu.edu.au](http://cqu.edu.au)

# INTRODUCTION

- Technology is widely prevalent in gambling industry
- Technology has altered gambler/croupier relationship
- Impact on players remains unclear
  
- Use EGM & internet gambling research to inform on technological enhancements to traditional games
  
- Structural features fundamental to both reinforcing and perpetuating gambling behaviour
- Entice and encourage intense gambling

# THE 'VICES' FRAMEWORK

(Armstrong, Rockloff, Greer & Donaldson, 2016)

- Designed to assess product characteristics
- The 5 'VICES':
  - Visual and Auditory Enhancements
  - Illusion of Control
  - Cognitive Complexity
  - Expedited Play
  - Social Customisation

# VISUAL & AUDITORY ENHANCEMENTS

## Visual

- Visual complexity (Ladouceur & Sévigny, 2002)
- Colours (Spenwyn et al. 2010; Stark et al. 1982)
- Screen brightness (Delfabbro et al., 2005)

## Auditory

- Influence player excitement (Delfabbro et al 2005)
- Impact betting speed (Dixon et al., 2007; Spenwyn et al 2010)
- Reinforce greater gambling intensity (Griffiths & Parke, 2005)

# ILLUSION OF CONTROL



- Active involvement promotes a sense of control (Stefan & David 2013)
- Control over game apparatus
  - Larger wagers (Davis et al., 2000)
  - Cognitive distortions (Ladouceur & Sévigny, 2005)
- Technology can offer greater perceived control

# COGNITIVE COMPLEXITY



- Volume of information increases complexity of task (Bedny et al., 2012; Sung et al., 2009).
- Task complexity can increase strain
  - Greater subjective effort, confusion, errors, and poorer performance (Jacoby, 1974; Johnson & Bruce, 1998)
- Technology allows for jackpots, side bets and additional betting options
  - Greater gambling intensity
  - For example, hidden jackpots (Donaldson et al., 2016) or high value jackpots (Browne et al., 2015) can cause faster betting speed and greater betting persistence

# EXPEDITED PLAY



- Faster rates of play
  - Increase frequency of outcomes
  - Prolonging playing time (Delfabbro et al., 2005; Ladouceur & Sévigny, 2006)
  - Promoting cognitive distortions (Griffiths et al., 2006)
- Speed traditionally determined by croupier and other players
- Automated/digitalised products more comparable to EGMS
  - Rate of play determined by player rather than external influences

# SOCIAL CUSTOMISATION

- Social facilitation theory (Zanjoc, 1965)
  - Audience effects
    - Social desirability = riskier betting (Geen, 1991; Wood & Griffiths, 2007)
  - Co-action effects
    - Knowledge of others outcomes
      - Riskier betting, greater betting persistence, increased losses (Martinez et al., 2005; Rockloff & Dyer, 2007; Rockloff et al., 2011)
- Effects of automation unclear



# AUTOMATED/DIGITALISED GAMBLING PRODUCTS

“Any game or product that has been enhanced, modified, or digitalised to incorporate technological features”.

- Incorporate digitalised or automated components
- Alter the relationship between player and croupier
- Alter game play
  
- Semi-automated
- Fully-automated
- Fully-digitalised

# METHOD

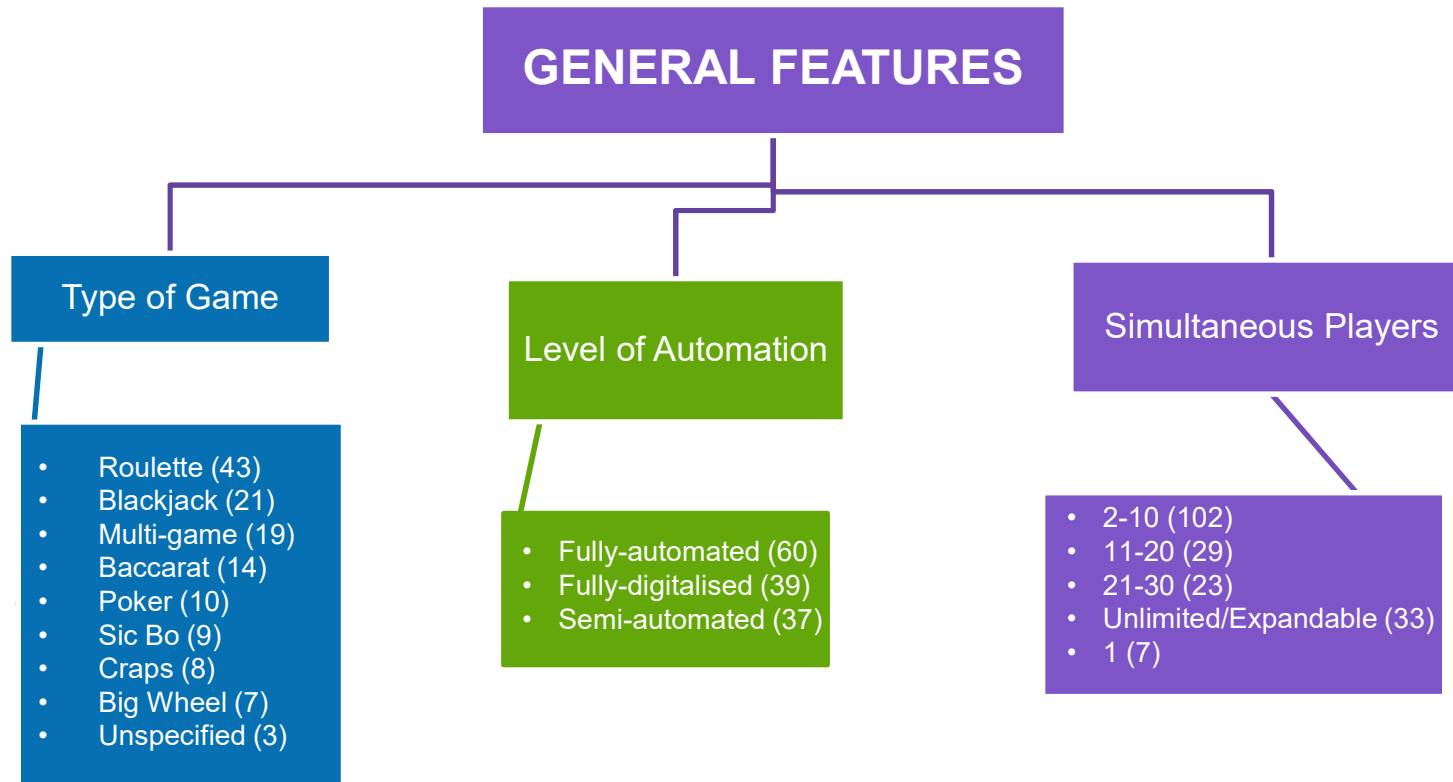
## Procedure

- **Stage 1 – Casino Visits**
  - Products available to Australian consumers
  - Star Casino Sydney; Jupiter’s Casino Gold Coast; Casino Canberra; Treasury Casino Brisbane; Crown Melbourne Casino; Adelaide Casino; and the Perth Casino
- **Stage 2 – 2014 Australasian Gaming Exhibition**
  - Products available to Australian gaming operators
  - Manufacturers exhibits and consultations with marketing staff
- **Stage 3 – Industry Media**
  - Scanned online and print media for products advertised or available
  - Included products from a global market place

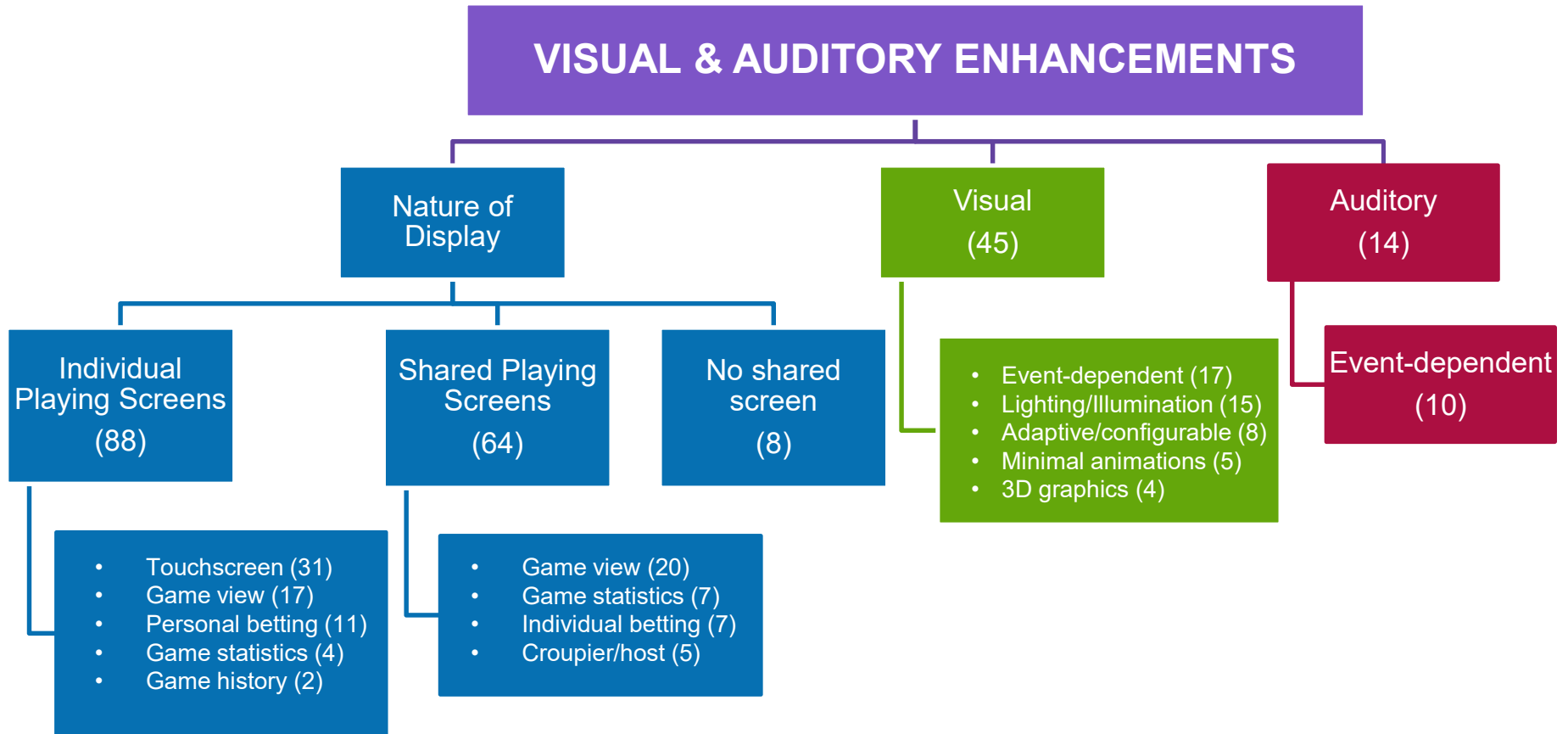
# RESULTS

- Casino products and community style/novelty products were considered separately
- Data from each stage collated
- Conducted a thematic analysis
- Higher numbers reflect greater prevalence of features

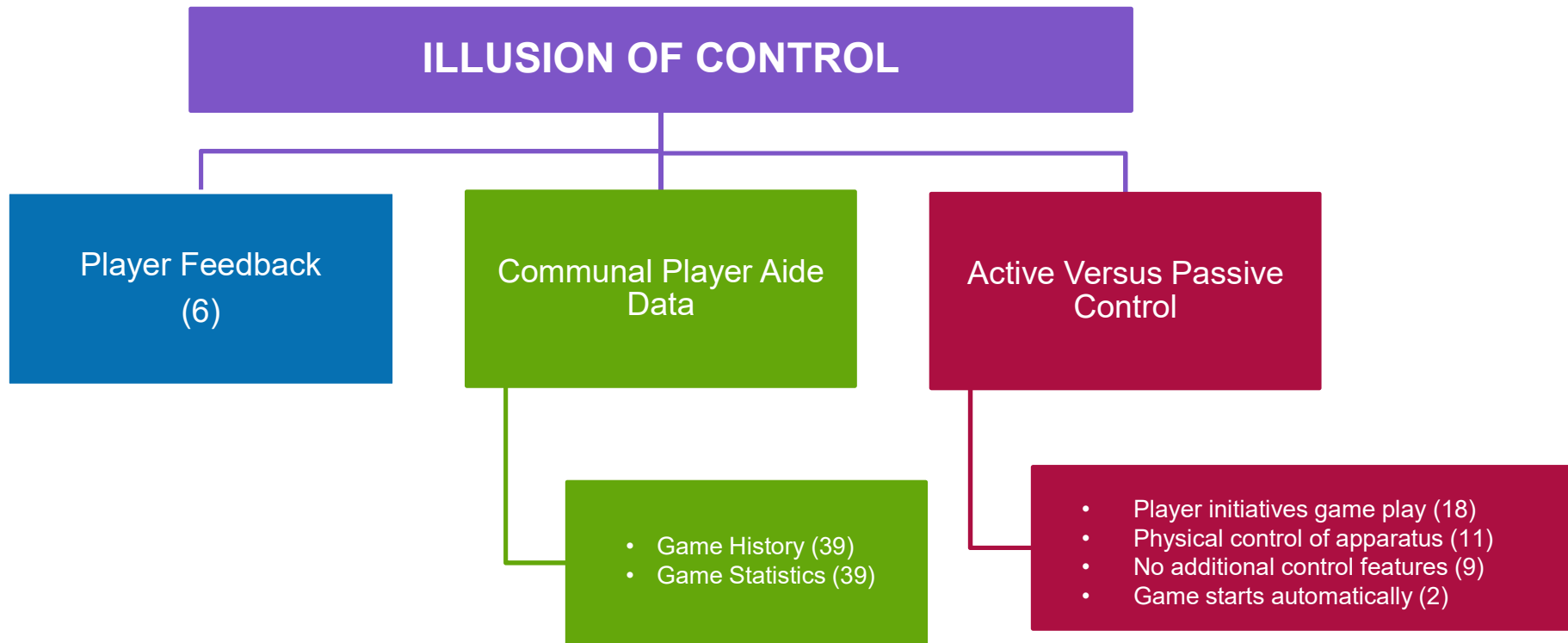
# RESULTS



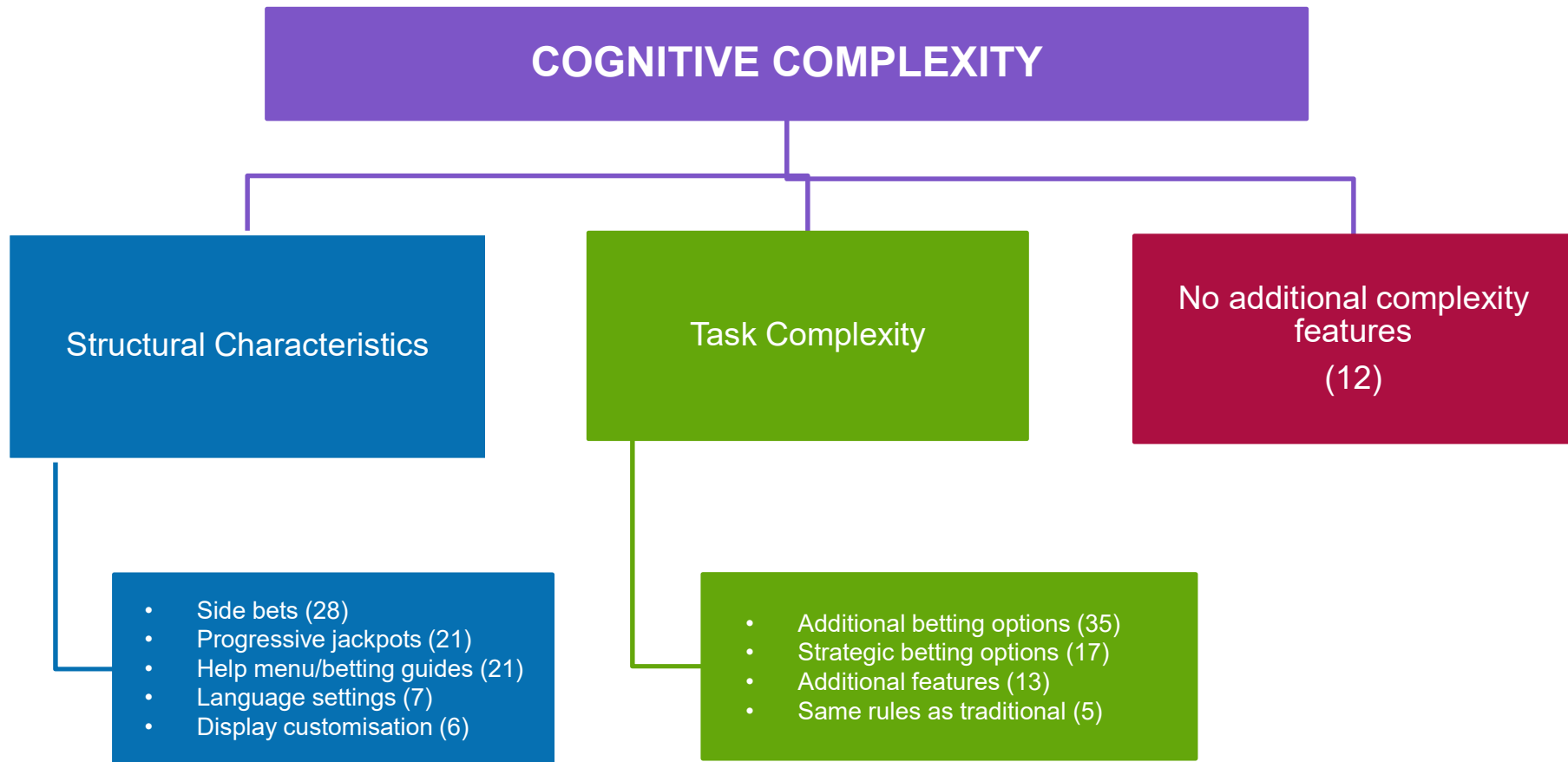
# RESULTS



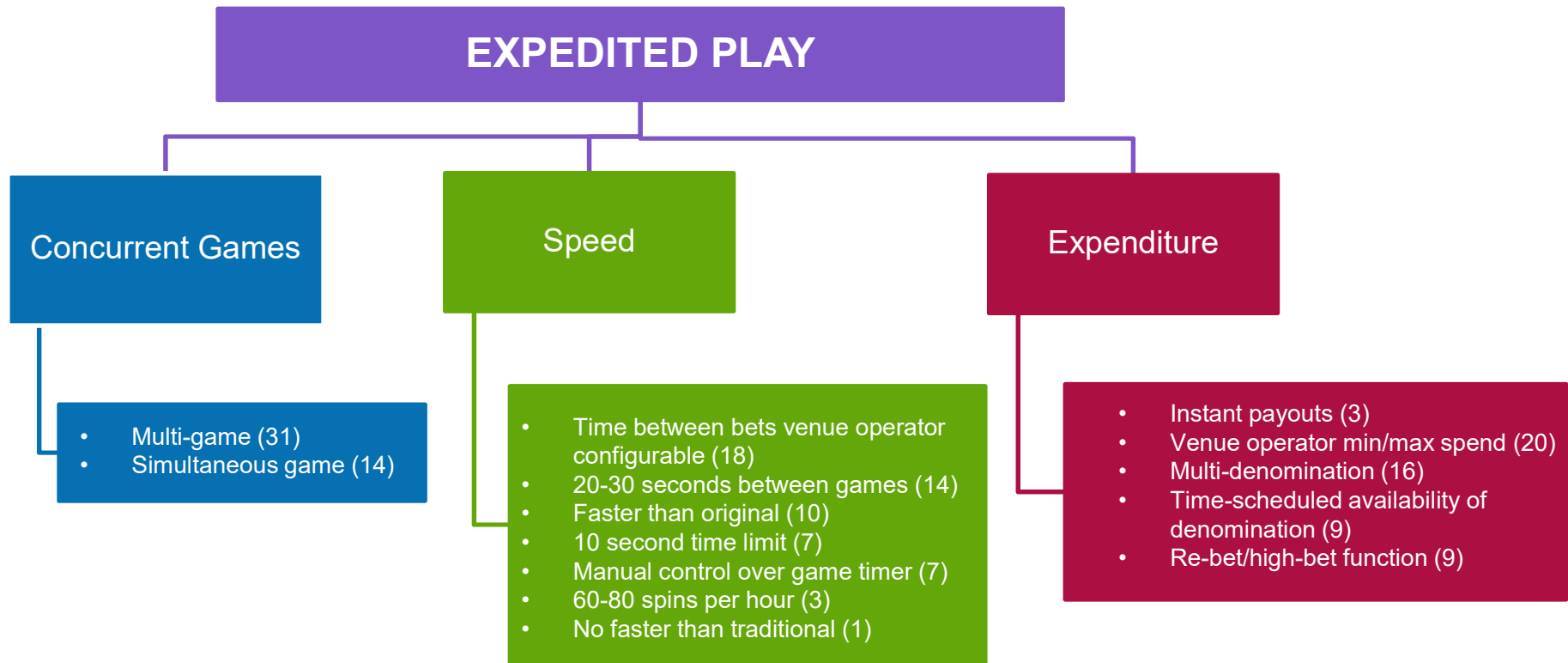
# RESULTS



# RESULTS

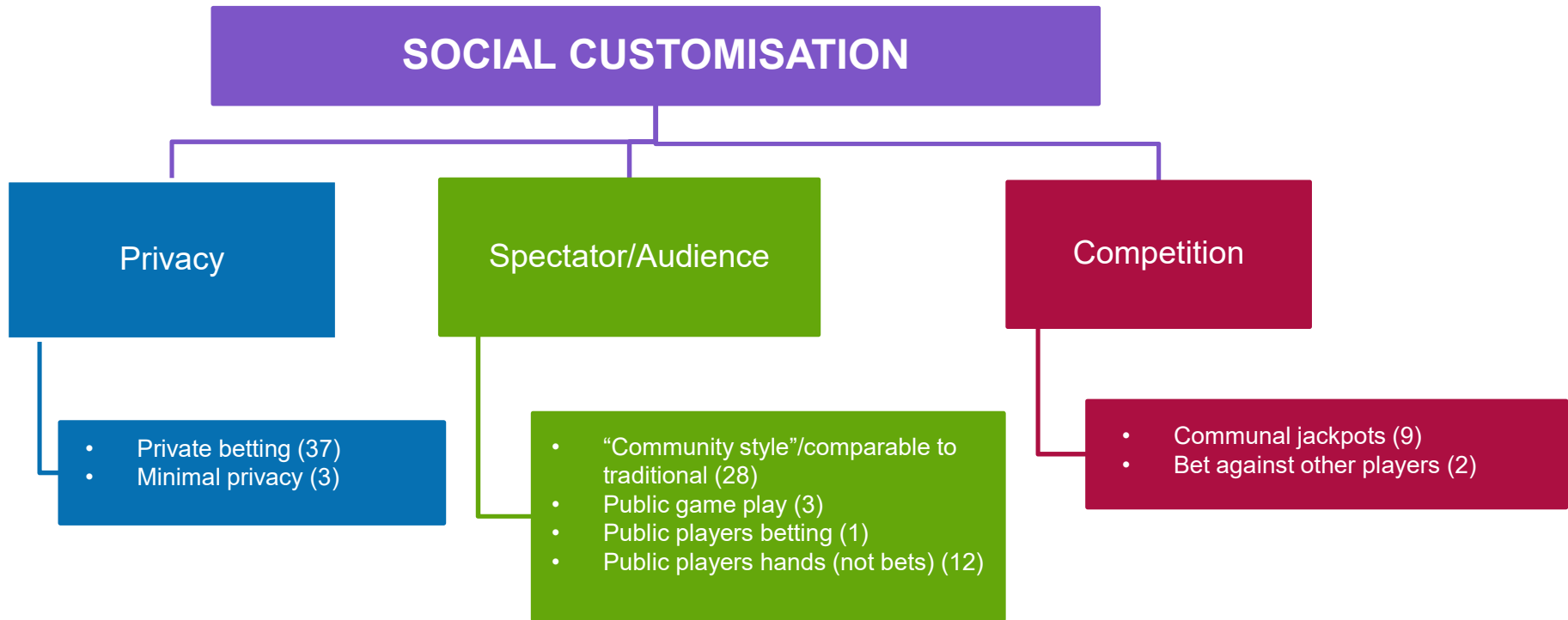


# RESULTS





# RESULTS



# GENERAL SUMMARY



- Technological enhancements allow for the addition of a number of features likely to alter gambling behaviour
- Determine what features are appealing and to who
- Features or changes that might be associated with harm
- Those who might be vulnerable to experiencing harm

# LIMITATIONS

- Difficult to catalogue features incorporated into game play
- Industry media and Australasian Gaming Exhibition sales-orientated
- Technology moves quickly

# CONCLUSION



Automation and digitalisation significantly changes the delivery of traditional gambling games.



# THANKYOU!

Armstrong, T. A. R., Rockloff, M. J., & Donaldson, P. (2016). Crimping the croupier: Electronic and mechanical automation of table, community and novelty games in Australia. *Journal of Gambling Issues*, 33, 103-123. doi: 10.4309/jgi.2016.33.7



BE WHAT YOU WANT TO BE  
[cqu.edu.au](http://cqu.edu.au)



- Armstrong, T., Rockloff, M., & Donaldson, P. (2016). Crimping the croupier: Electronic and mechanical automation of table, community and novelty games in Australia. *Journal of Gambling Issues*, 33, 103-123.
- Armstrong, T., Rockloff, M., Greer, N., & Donaldson, P. (2016). Rise of the machines: A critical review on the behavioural effects of automating traditional gambling games. *Journal of Gambling Studies*.
- Bedny, G.Z., Karwowski, W., & Bedny, I. S. (2012). Complexity evaluation of computer-based tasks. *International Journal of Human-Computer Interaction*, 28(4), 236–257.
- Browne, M., Langham, E., Rockloff, M. J., Li, E., Donaldson, P., & Goodwin, B. (2015a). EGM jackpots and player behaviour: An in-venue shadowing study. *Journal of Gambling Studies*, 31(4), 1695–1714.
- Davis, D., Sundahl, I., & Lesbo, M. (2000). Illusory Personal Control as a determinant of bet size and type in casino Craps games. *Journal of Applied Social Psychology*, 30(6), 1224–1242.
- Delfabbro, P., Flazon, K., & Ingram, T. (2005). The effects of parameter variations in electronic gambling simulations: Results of a laboratory-based pilot investigation. *Gambling Research*, 17(1), 7-15.
- Dixon, L., Trigg, R., & Griffiths, M. (2007). An empirical investigation of music and gambling behaviour. *International Gambling Studies*, 7(3), 315-326.
- Donaldson, P., Langham, E., Rockloff, M. J., & Browne, M. (2016). Veiled EGM Jackpots: The effects of hidden and mystery jackpots on gambling intensity. *Journal of Gambling Studies*, 32(2), 487–498.
- Geen, R. G. (1991). Social Motivation. *Annual Review of Psychology*, 42(1), 377–399.
- Griffiths, M. (2003). Internet gambling: Issues, concerns, and recommendations. *CyberPsychology & Behavior*, 6(6), 557-568.
- Griffiths, M. (1999). Gambling technologies: Prospects for problem gambling. *Journal of Gambling Studies*, 15(3), 265-283.
- Griffiths, M., & Parke, J. (2005). The psychology of music in gambling environments: An observational research note. *Journal of Gambling Studies*, 13.
- Griffiths, M., Parke, A., Wood, R., & Parke, J. (2006). Internet gambling: An overview of psychosocial impacts. *UNVL Gambling Research and Review Journal*, 10(1), 27–39.
- Jacoby, J., Speller, D. E., & Kohn, C. A. (1974). Brand choice behavior as a function of information load. *Journal of Marketing Research*, 11(1), 63–69.
- Johnson, J. E. V., & Bruce, A. C. (1998). Risk strategy under task complexity: A multivariate analysis of behaviour in a naturalistic setting. *Behavioral Decision Making*, 11(1), 1–17.
- Ladouceur, R., & Sévigny, S. (2002). Symbol presentation modality as a determinant of gambling behaviour. *The Journal of Psychology*, 136(4), 443-448.
- Ladouceur, R., & Sévigny, S. (2005). Structural characteristics of video lotteries: Effects of a stopping device on Illusion of Control and gambling persistence. *Journal of Gambling Studies*, 21(2), 117–131.
- Ladouceur, R., & Sévigny, S. (2006). The impact of video lottery game speed on gamblers. *Journal of Gambling Issues*, 17.
- Martinez, F., Le Floch, V., & Gaffie, B. (2005). Perception of control and risk taking in a gambling game: What the other guy wins matters. *International Journal of Social Psychology*, 18(3), 129–151.
- Parke, J., & Griffiths, M. (2006). The psychology of the fruit machine: The role of structural characteristics (Revisited). *International Journal of Mental Health Addiction*, 4(2), 151-179.
- Rockloff, M. J., & Dyer, V. (2007). An experiment on the social facilitation of gambling behavior. *Journal of Gambling Studies*, 23(1), 1–12.
- Rockloff, M. J., Greer, N., & Fay, C. (2011). The social contagion of gambling: How venue size contributes to player losses. *Journal of Gambling Studies*, 27(3), 487–497.
- Spennyn, J., Barrett, D.J.K., & Griffiths, M. (2010). The role of light and music in gambling behaviour: An empirical pilot study. *International Journal of Mental Health and Addiction*, 8(1), 107-118.
- Stark, G.M., Saunders, D.M., & Wookey, P.E. (1982). Differential effects of red and blue coloured lighting on gambling behaviour. *Current Psychological Research*, 2(1-3), 95-99.
- Stefan, S., & David, D. (2013). Recent developments in the experimental investigation of the illusion of control. A meta-analytic review: A meta-analysis of the illusion of control. *Journal of Applied Social Psychology*, 43(2), 377–386.
- Sung, M.-C., Johnson, J. E. V., & Dror, I. E. (2009). Complexity as a guide to understanding decision bias: A contribution to the favorite-longshot bias debate. *Journal of Behavioral Decision Making*, (3), 318–337.
- Wood, R. T. A., & Griffiths, M. D. (2007). A qualitative investigation of problem gambling as an escape based coping strategy. *Psychology and Psychotherapy: Theory, Research and Practice*, 80(1), 107–125.
- Zajonc, R. B. (1965). Social facilitation. *Science*, 149(3), 269–274.