

VLT Player Tracking System

*Nova Scotia Gaming Corporation
Responsible Gaming Research Device Project*

Assessment of the Behavioral Impact of Responsible Gaming Device (RGD) Features: Analysis of Nova Scotia Player-card Data - WINDSOR TRIAL

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- HIGHLIGHT REPORT -

Prepared by Focal Research Consultants

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Turning Information into Insight

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Assessment of the Behavioral Impact of the Responsible Gaming Device (RGD) Features: Analysis of Nova Scotia Player-Card data - Highlight Report -

Introduction

The Nova Scotia Gaming Corporation (NSGC) engaged Focal Research to review and analyze the player tracking data derived from Stage III of the Responsible Gaming Device (RGD) Research Project. The primary purpose of the analysis was to provide NSGC with feedback regarding the behavioral impact of the responsible gaming features using VLT player-card data compiled over the course of a six-month field trial of the system in Windsor–Mount Uniacke area of Nova Scotia.

The analysis of ‘*real*’ player data differs strongly from traditional approaches used with survey data. Focal Research has unique experience in evaluation of responsible gaming features, database analysis, and analysis of player tracking data (e.g. *player-card*, *loyalty data*). Based on this experience, the information objectives were set and addressed under two principal criteria:

1. **Is there value for the customer (VLT Players) in introducing this RG system?**
2. **Is the behavioral impact of the RG system consistent with NSGC’s goal ‘to assist players to make informed decisions that foster responsible gambling’?**

These criteria were used to guide the research and analysis process in order to:

- *identify behavioral impacts associated with use of the RG features;*
- *assess the potential value of the RG features for the user,*
- *explore the potential impact of RG use based on player’s risk for problem gambling; and,*
- *provide conclusions and recommendations as input to next steps surrounding further program development and implementation.*

During the research process, Focal Research developed and defined guidelines for analyzing the player tracking data including the establishment of a common unit of measurement (e.g. *day-session of play*) and the need to accommodate the pre-programmed, random action of the game in influencing outcomes. In addition to frequency of play, length of play and expenditure, impact was assessed for other outcome measures that were consistent with the RG features being tested and the behavioral information available in the player-card database such as *cash-out* (absolute dollars taken out of the machine during play), *rate of cash-out* (cash-out as percent of cash-in), *wins versus losses* (absolute dollars and percentage), *percent of winning sessions*, (sessions ending in ‘*cash-up*’), *percent of losing sessions* (sessions ending in ‘*cash-down*’), *rate of play* (number of ‘*pulls/spins*’ per hour).

RGD System Design

The Responsible Gaming Device (RGD) and RG Tracking System used during the field test were provided by Techlink Entertainment.¹ The system was comprised of a unit attached to each video lottery terminal. The unit included a confidential card enrolment process whereby a player inserted a card and was then prompted to select a unique Personal Identification Number (PIN). Once the system was activated, a player had to ‘*swipe*’ their card and enter their PIN in

¹ Techlink Entertainment is a company engaged in the design and development of gaming products with special emphasis on card-based player management technologies.

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order to initiate each session of play. The unit was linked to a centralized database that recorded specified play activity for each card session and monitored system functions.

In addition to tracking and storing play activity, the RG System allowed players access to five responsible gaming (RG) features:

- **'Account Summary'**: tracked expenditure, amounts won/lost over time while playing the machines (e.g. day, week, month, year).
- **'Live Action'**: tracked expenditure, amounts won/lost and any limits set for the current play session only.
- **'Money Limits'**: allowed players to set specific spending limits (e.g. pre-set or self-selected values) for certain periods (e.g. until closing, day, week, month).
- **'Play Limits'**: allowed players to exclude themselves from play for a given period (e.g. until close, day, month, year).
- **'48-Hour Stop'**: allowed players to enact, immediately, a two-day exclusion period (e.g. quickly exclude themselves for a 48-Hour 'cool-down' period).

RGD Database

The RG System files consisted of a database of video lottery (VLT) play activity archived over the course of the six-month field trial conducted from October 5, 2005 - March 24, 2006 in the Windsor-Mount Uniacke area of Nova Scotia. During the trial period, the use of a player card was mandatory in order to play any VLTs located in the test area (9 sites; ≈51 terminals). Each time the card was inserted into a machine a set of information was generated for approximately 40 variables including: **system variables** (e.g. *account id, device id*), **session characteristics** (e.g. *date, time of day*); **behavioral variables** (e.g. *money put in, money cashed out*); **outcome variables** (e.g. *money won-lost, games won-lost*), and; **use of RG features** (e.g. *viewed account summary information for current session or over time (day, month, year), set a money limit for play, self-excluded for a set period*). The final database represented all play information tracked by the RG System during the six-month trial period.

Research Design and Methodology

The player-card database represents the most accurate source of VLT behavioral data available for analysis. As the first study in the world to collect VLT player-card data, there is much to be learned from this rich, unique dataset. However, in the current study analysis was focused solely on using the database to isolate and identify relevant impacts of the RG features tested during the trial. The primary challenges in addressing these study objectives were the lack of a baseline measure of behavior established prior to activation of the System's RG features and lack of information regarding player risk for gambling problems (e.g. *CPGI score*) among those using the machines during the field trial.

To address these issues, the player-card data was used to create '*pre-RG use*' benchmarks (e.g. *baseline measures of play before use of any of the RG features*) for comparison to behaviours and game outcomes following adoption of the features. Adoption and impact analysis was conducted using experimental and control group design. Trend analysis was undertaken to assess the use and impact of the system over time. In addition, exploratory analysis was

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performed to evaluate impact by risk for problem gambling. A predictive behavioural model was developed and used to segment all players in the database ($n \approx 1,824$) based on risk for problem gambling (e.g. *lower versus higher-risk player groups*). Once players were assigned by risk, comparisons were then conducted within each risk group for those who adopted use of the RG features (Experimental Group) versus those who did not (Control Group).

Generating a Common Unit of Comparison

Player-card data (i.e. player tracking data) differs fundamentally from behavioural data obtained using traditional survey methods. The RG System recorded all play activity that occurred while using the player card and this play activity varied substantially among players. With self-reported survey data, everyone answers the same questions for the same period of time (e.g. how much spent on the machines during the past month). For those who only played once or twice this may be an easy number to remember but accuracy tends to decline as the frequency of play increases. The player tracking system eliminates this problem but because of differences in the level and degree of play among players, it was necessary to define a common base of measurement for comparing and profiling behavior and game outcomes.

For analysis purposes, a 'day-session' measurement base was created to profile session characteristics (e.g. summation of all card sessions that occurred at a single site over a single day of play). To ensure independence of events and session characteristics, outcomes for day-sessions were summed and averaged for each player before calculating and comparing group characteristics. This controlled for variations in frequency and timing of play among the various players active during the trial and created a common unit for comparison relevant for all players. It was also meaningful for assessing the RG features since the smallest period a feature could be activated was one day. Thus, while a card may be used more than once in a day it is not necessary to re-set any features.

Limitations

The analysis of the data contained in the player card database is exclusive to those players who took part in VLT gaming in the test area during the trial period. Therefore, it was not possible to use this data source to assess changes in behavior that may have occurred before and after the RG System became mandatory (e.g. the number of players that stopped or reduced play in response to mandatory use of a player card). For those players active during the trial, it was necessary to generate pre-post measures. While the establishment of benchmarks was developed systematically and rationally, the impact of RG use could only be statistically modeled among those players for whom a baseline measure could be created. However, these findings were further supported by the identification of similar trends and signature play when profiling differences in RG versus non-RG play sessions even among those who immediately adopted use of the features (e.g. those players for whom baseline measures could not be calculated). It was also possible, using the player-card data and a variety of analytical techniques, to identify additional confirmatory impacts associated with feature use, although direct causality was difficult to ascribe with certainty and the length of the trial (six months) pre-empted any assessment of longer-term impacts.

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There were also issues related to the assessment of RG impact by risk for problem gambling, primarily related to the need to develop a model for identifying risk. Given that risk assessment for problem gambling (e.g. CPGI scores) was only available for 140 test-panel members, there was not enough data for using a holdout sample to test for a positive bias in the predictability of the derived equation (e.g. model). Notwithstanding these limitations, the Principal Investigators for the study were able to draw on experience with analysis of other gambling machine databases and customize previous learning for use with this particular dataset. The risk segmentation yielded two groups that had distinctive playing patterns consistent with respective risk profiles (lower versus higher-risk players). The exploratory analysis provided sufficient insight as to the impact of the features to be of assistance in future planning.

The initial database review, interim analysis and report were subject to independent evaluation by two reviewers; Dr. J. McMullan and Dr. H. Wynne. Written reviews were submitted to NSGC. Any items identified by the peer-reviewers were addressed either directly in the report or separately. The feedback and commentary provided by these reviewers made a valuable contribution to the quality and clarity of the final reporting process.

Summary of Database Activity over the Trial

In total, 1,854 adults actively played any VLT in the Windsor Area during the field trial with almost 30,000 day-sessions of play recorded over the six-month period. Play activity was heavily skewed towards regular players, defined as those having played six or more times during the test period (e.g. $\approx 1+$ times per month). These regular players (n=871) accounted for slightly under half (47%) of total VLT players in the test area, but contributed almost 93% of total day-sessions of play (n=28,007) and, correspondingly, 94% of total net revenues (e.g. *amount spent out-of-pocket by players*). The other half of the player base active during trial (53%) collectively contributed about 2,000 play sessions and about 6% of total net revenue. These players (n=983) were characterized as Casual Players (e.g. < 6 sessions of play during the trial) and were excluded from much of the analysis as the inclusion of this large group of players distorted findings on a per player level and made little contribution to session profiles for impact testing. There was also insufficient data for these players to create reliable pre-post measures for analysis purposes.

The following figure illustrates the model used for analyzing the database and the various player segments created for analysis purposes.

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Segmentation of Player Database for Analysis

Eligible Active Cards: Only those cards with any active play sessions recorded (e.g. cash-in)

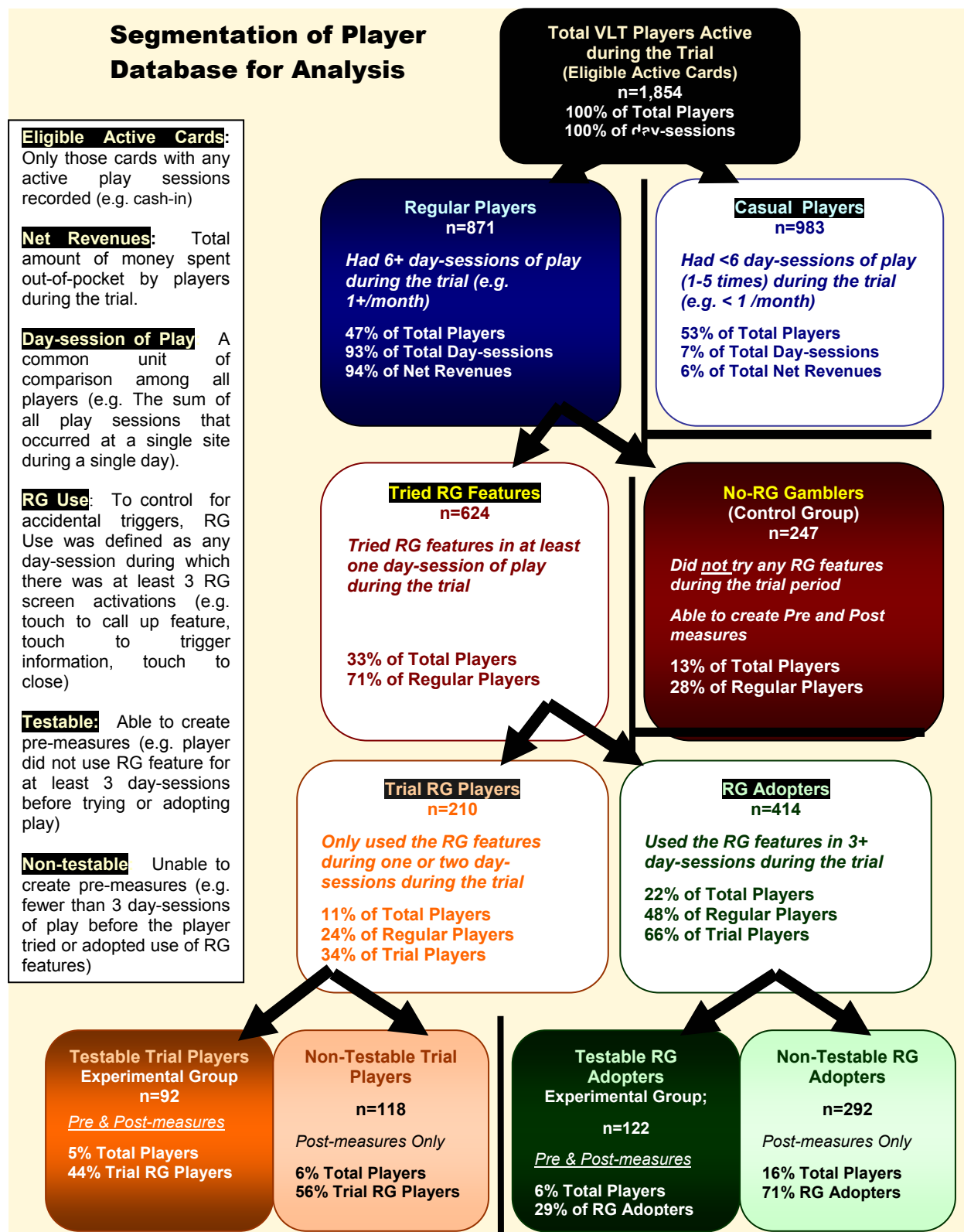
Net Revenues: Total amount of money spent out-of-pocket by players during the trial.

Day-session of Play A common unit of comparison among all players (e.g. The sum of all play sessions that occurred at a single site during a single day).

RG Use: To control for accidental triggers, RG Use was defined as any day-session during which there was at least 3 RG screen activations (e.g. touch to call up feature, touch to trigger information, touch to close)

Testable: Able to create pre-measures (e.g. player did not use RG feature for at least 3 day-sessions before trying or adopting play)

Non-testable Unable to create pre-measures (e.g. fewer than 3 day-sessions of play before the player tried or adopted use of RG features)



Key Findings

- **Trial of the RG features was high.**

Among Regular VLT Players (e.g. *those who played 6+ times during the field test*) trial of the RG features was high, with the vast majority (71%) having used an RG feature in at least one play session especially My Account (68% %) and Live Action (59%). Those Regular Players who tried any features on the system accounted for 78% of all play sessions and 78% of net revenue (e.g. *total player 'out-of-pocket' expenditure*) over the course of the trial, suggesting that experimentation of the RG system was highest among the most frequent VLT players.

- **Continued use (e.g. adoption) of the RG features was high especially among relevant target populations such as regular players.**

Once a player had tried the RG features, almost two-thirds, (65%), continued to use them during additional play sessions. While curiosity may have lead players to try the features, it appeared that the majority received sufficient benefit to continue to activate the features. On-going use was particularly high among the more frequent players in the Windsor-Mount Uniacke area with almost half (48%) of those characterized as Regular VLT Players (i.e. *playing 1+ times/month*) taking up regular use of the features (e.g. *RG Adopters*). Collectively, these RG Adopters were responsible for $\approx 61\%$ of all VLT play sessions and $\approx 61\%$ net revenues during the six-month trial period.

- **There were specific and consistent session characteristics associated with use or adoption of the RG features.**

Comparative analysis consistently found that use of the RG system was associated with longer play sessions, increased wagering activity (e.g. *higher amounts of money put into the machines during play*), higher winnings (e.g. *higher amounts won during play*), and higher cash-outs (e.g. *higher amounts of money cashed out during the session*). At the same time there were no changes observed in player expenditure (e.g. *the amount of money spent out-of-pocket by the player*) nor was there any change observed in the frequency of play (e.g. *rate of play*). However, there were increases in the percent of sessions ending in a positive or 'win' outcome (e.g. *percent winning sessions*) and in the percent of money that players cashed out as a percent of the amount they put into the machine (e.g. *cash-out*).

- **RG use and impact was stable and persisted over time with evidence of a decline in money spent emerging with extended use.**

Although the field test was only six-months in length it was important to determine whether use of the features and the associated behavioral impact persisted over time, in particular as the novelty of the system declined. It was found that once players adopted use of the features, their usage pattern was consistent and stable up to 24 sessions following trial of the features, well beyond the period when most players could be

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expected to be still learning the system. When specifically examined among those who played 18+ sessions during the test period, there was no evidence of any change in amounts spent out-of-pocket for those sessions in which a RG feature was activated even when specifically examined over the last 13 to 24 sessions of play. Therefore, indicating use of the features and the associated impacts of that use were very stable over time.

- **There was a stronger effect for RG use observed in short sessions (<2 hours) when players typically were most likely to be in a loss situation (e.g. *minimizing money spent 'out-of-pocket' or cashing out wins*).**

Longer play sessions tend to be associated more often with winning sessions, as the player is able to use winnings to extend their length of play. In contrast, shorter sessions usually occur because players run out of money sooner or reach their desired money limit. This means that shorter sessions are more often associated with losing sessions (e.g. *percent of sessions that end with the player having spent money; that is ending play with less money than they had started with*) and lower rates of cash-out (e.g. *the percent of cash the player takes out of the machine as a percent of the total amount of money they put in*). Due to this relationship, it was important to assess RG use relative to session length. As expected, cash-out rates (85%-88%) and percent winning sessions (30-32%) were higher during longer sessions of play (2+ hours), regardless of use of the RG features. Outcomes differed markedly for shorter sessions (<2 hours of play) with RG use, on average, associated with higher cash-out ($\approx 77\%$ versus $\approx 56\%$) and a higher rate of winning sessions ($\approx 28\%$ versus 20%). This same relationship was borne out when RG Adopters were compared to No-RG Players with the exception that after 30 minutes of play the cash-out rates for all RG Adopter sessions was consistently and significantly higher than rates for Non-Adopters ($\approx 81\%$ versus 69%, $p < .001$).

- **When other factors associated with expenditure were controlled for (e.g. *session length, pay-out rate and amount won per session*), the use of the RG features was found to be significantly associated with a decrease in money spent ('out-of-pocket') especially for use of 'Live Action' 'My Account Year' and 'Setting Limits'**

No-RG Players (Control Group; $n=247$) and RG Adopters (Experimental Group; $n=122$) were used to test for differences in session characteristics before and after adoption of the features (e.g. *pre-post comparison*). A positive impact was found for use of informational RG features ('Live Action' and 'My Account') and the control RG features ('My Money Limits', 'My Play Limits', '48-Hour Stop'). There were no significant differences in pre-session profiles (e.g. *session characteristics prior to adoption*), with the exception that, on average, the RG Adopters played more often than the No-RG Players (about every 3.2 days versus every 9.2 days). However, during the post-trial sessions, the RG Adopters had longer play sessions, won more money, and had reduced expenditure as compared to the No-RG Players. Using Repeated Measures ANOVA (GLM Analysis) with covariates to control for the effects of session length, luck (e.g. *amount won per session*), and game design (e.g. *pay-out rates*), a significant effect was detected for use of most of the RG features; 'Live Action'; 'My Account Year' and 'My Play Limit'. As hypothesized, those

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players who adopted use of the RG features reduced their expenditure as compared to the No-RG Players.

- **RG use differed by risk for gambling problems.**

Although Problem Gamblers were just as likely to have adopted use of the ‘Live Action’ feature as those players identified at lower levels of risk (≈48%), the Problem Gamblers tended to use it 3-4 times more often during play and referred to the other RG features less often in comparison to use by other players. ‘Live Action’ is an RG feature that provides information on the current session of play only. Players in the other segments more often accessed the ‘My Account’ feature that summarizes play outcomes over time.

- **Impact of RG use differed between lower-risk and higher-risk players, although there was no evidence of increased expenditure for either group.**

On average, players who adopted use of the RG features significantly increased session length, reduced expenditures and had no change in their frequency of play. Lower-risk players who adopted RG use (i.e. *RG Adopters*) also exhibited higher wagering activity and longer play sessions but had no change in amount spent or frequency of play, although the lower-risk players who did not use the RG features (i.e. No-RG Players) ended up spending significantly more (p=.065). Higher-risk players who adopted RG use also had increased wagering activity, slightly longer play sessions, increased cash-out, higher winnings, and, on average, reduced expenditures. For the most part, due to small sample sizes for the higher-risk testable segment (n=49), these results were not significant at the 90%+ confidence level. However, per session expenditure was found to have declined among the high-risk players at the 83% confidence interval (p=.169) although there was also an increase in frequency of play that occurred at only the 67% level (p=.332). Therefore, the findings suggest that reductions in spend could potentially be offset by increased play producing no net change for higher-risk players.

Key Impact Measures	No-RG Players (Control Group) (n=247)	RG Adopters (Experimental Group) (n=122)
Average Play Length per Session (minutes)	No Change (Pre: 78 min. vs. Post: 77 min.)	***Change ↑ (95% CI, p<.05) (Pre: 82 min. vs. Post: 98 min.)
Average Spend per Session (out-of-pocket)	***Change ↑ (95% CI, p<.05) (Pre: \$40.30 vs. Post: \$52.69)	***Change ↓ (95% CI, p<.05) (Pre: \$47.00 vs. Post: \$39.82)
Frequency of Play per Month (times per month)	No Change (Pre: 3.2 times vs. Post: 3.1 times)	No Change (Pre: 9.3 times vs. Post: 9.3 times)

*** Probability < .05; 95% Confidence Interval

Conclusions

1. Players accepted the card based system for VLTs.

There was high trial and use of the RG features among players, especially regular players who accounted for about 94% of revenues during the field test. The majority (71%) of regular players tried at least one of the features, especially My Account (68%) and Live Action (59%), although at least 11% used the control features to set spending limits primarily on a daily basis and 2% self-excluded for at least a 48 hour period. There was no negative behavioral impact detected in relation to the RG System for those who used the features or for those who chose not to use the features. The findings indicated that the system had a minimal impact for those who did not decide to use any of the voluntary features insofar as there were no reductions or significant changes in play behaviors (e.g. *session length, frequency of play*) observed among those who did not try any of the features, with the exception that expenditure increased for this group over the course of the trial.

2. The RGD system provided on-going value to a significant proportion of regular players.

About half of all regular players continued to use any RG features after they had tried them. This represented a 65% continued adoption rate, suggesting that these regular players were deriving ongoing benefit from the RG System.

3. Use of the features was associated with increased play value (e.g. longer play sessions, higher cash-outs, and more winning sessions) and decreased expenditure.

RG users experienced increased winnings, greater cash-out, longer play sessions, in general getting greater play value for the money spent. At the same time, use of the RG features was found to have a significant effect in reducing the amount spent especially for use of the information features 'Live Action', 'My Account Year', as well as for use of any control features that allowed players to set limits for play.

4. There was a positive impact detected for players that was consistent with NSGC's objective to assist players in making more informed decisions about their gambling.

When using the RG System, players, especially those identified at lower to moderate levels of risk, were more likely to have session behaviors and outcomes consistent with NSGC's responsible gaming objectives. The results suggested that the features were assisting players in making decisions that resulted in greater play efficiency and increased entertainment value (e.g. *playing longer for the same or less amount of money*). There were greater returns to the player detected (e.g. *more time and higher winnings*) as well as evidence of more positive play experiences (e.g. *more play sessions ending in a cash-positive or 'winning' outcome, reduced expenditure*). There was also evidence of feature

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impact for purposes of control as well as reduction. For example, among lower-risk players use of the RG features was associated with increased play value for the same amount of money (e.g. *longer, sessions, higher winnings, increased cash-out and no change in expenditure*). In contrast, for those lower-risk players who did not use the RG features there was an increase in expenditures observed with no associated change or improvements in other game outcomes such as session length, cash-out or winnings. This suggests that the RG features provided assistance to lower-risk players is achieving better outcomes for the same amount of money.

- 5. There were no significant negative RG impacts detected by risk for problem gambling, although Problem Gamblers appeared to respond to and to use the features differently, on average, using reductions in the amount spent per session to play more often.**

While Problem Gamblers were not originally considered a key target group for the RGD concept it was still important to undertake analysis to assess any potential impact of the RG system by risk for gambling problems. Those identified as Problem Gamblers were among the heaviest users of the RG system as compared to any other player group. Although there were no significant impacts detected for Problem Gamblers there was evidence that interaction with the RG system produced increased wagering activity and reduced out-of-pocket expenditure on a per session basis; enhancing the entertainment value of the games for reduced cost. In particular, the ability to check on session information (e.g. *'Live Action' wins/losses*) during play appeared to aid the Problem/Gambler in staying on budget, reducing the amount spent or at the very least in playing more efficiently. However, reductions in per session expenditures were offset by increased frequency in play, meaning that higher-risk players were still spending at similar levels overall. While this may reflect a temporary stimulation of player response, the preliminary evidence suggests that, due to differences in how Problem Gamblers interact with the features/games, on-going behaviors should be monitored.

Recommendations**Recommendation One**

Introduce a player tracking system for the multi-channel video lottery program in Nova Scotia with mandatory registration, voluntary access to the various RG features and appropriate safeguards to monitor impact on a continuous basis.

It is challenging, using traditional research methods, to generate survey data that has sufficient precision to detect impact and change. As a result, it is often costly and difficult for gaming managers to obtain timely, conclusive research and information to meet the rigor of evidence-based decision requirements. The availability of a player card or tracking system offers a new, highly effective means of managing and informing the decision process not only for players but also for gaming operators, management, and regulators. The impact and application of the RG System is consistent with the responsible gaming objectives set by NSGC, as well as, NSGC's commitment to empower

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players by providing accurate play information and management tools. The system itself provides the means to monitor RG impact, in addition to system performance for immediate remedial attention. Mandatory player registration is required for the system to be functionally effective (e.g. *able to undertake player tracking*). However, use of the RG features should remain voluntary until the impact of use has been more thoroughly assessed among the broader player base. Only voluntary use of the system was tested in the current trial. There were no negative impacts detected among those who chose not to use the system. Moreover, there is evidence that the system offered different benefits and value to different players depending upon their playing styles and needs. It is unclear, at this time, whether mandatory use would be uniformly beneficial although this option can be explored once baselines are established for comparative purposes.

Recommendation Two

Incorporate a program communication and stakeholder education strategy to promote and support use of the RG features as play management and information tools (e.g. ‘informed choice’, ‘play limits’, ‘self-exclusion’), especially among higher-risk players.

Although mandatory use of the features is not supported in the current study, there was evidence that players were deriving benefit from using the features on voluntary basis. For many Players, simply having to ‘try’ the features (e.g. *acting on a voluntary basis*) appeared to be a barrier to use. About 28% of the regular players exposed to features did not even explore the options offered by the system on a trial basis. It may be that some Players were intimidated by the technology, reluctant to waste resources in learning how the system worked, were skeptical and/or suspicious of the benefits of the features or they may have felt that they did not need any assistance in managing their play. Whatever the case, once players tried the features they were quick to adopt regular use and immediately started to derive value from the system. The rate of up-take was even higher among the test-panel members who were supported throughout the trial process. Therefore, education and awareness of the system is critical for effective use and positive player impact. The features that are specifically designed for those seeking to reduce or eliminate play also offer potential tools to treatment providers and support services in assisting clients to meet play management or abstinence goals. The system also offers opportunities for instituting and evaluating prevention initiatives including assessment of voluntary versus mandatory use of the RG features.

Recommendation Three

In addition to the current, voluntary RG features, consider using the player tracking system to implement the capacity for an involuntary ‘safety-net’ that will proactively alert players to risk factors or changes in risk associated with their play patterns.

Given that there is evidence that the feedback system itself can heighten the entertainment value of the games, there are strong reasons for ensuring that the system has the capacity for proactively monitoring and identifying potential player risk and changes in that risk due to interaction with the games. This is akin to providing players with an ‘airbag’ (*an*

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involuntary safety feature that is activated under high-risk situations to enhance customer protection) in addition to the voluntary ‘seatbelt’ features that players can choose to use to control or manage risk. Essentially, the behavioral data can be used to trigger system alerts to apprise the player of increasing risk and to link such alerts to appropriate and relevant information/referral resources (e.g. *budgeting information, use of control features such as ‘My Money Limit’, counseling, self-exclusion*). Additionally, other models can be designed to ensure that management is alerted when other abnormal behavior occurs (e.g. *cheating, money laundering*). From a player perspective, the provision of such an involuntary alert system ensures that players are provided with critical information and feedback to support and foster responsible gambling decisions. This system also assists operators in managing risk, currently and in the future.

Recommendation Four

After implementing the player tracking system, gather baseline information on player behaviors (e.g. *establish benchmarks*) before activating certain RG features such as ‘Live Action’, in order to confirm the impact of such feature use among the various player groups.

The results of the current research suggest a number of areas where additional information would be valuable in evaluating system impacts. Due to differences in how Problem Gamblers and higher-risk players in the current study appeared to be responding to the ‘Live Action’ feature, it would be helpful to obtain baseline measures of player behavior before this specific RG feature is activated in order to fully model and assess the impact of features for higher-risk players. This would identify normal playing patterns for the Problem Gambler or those scoring at higher levels of risk for gambling problems in order to determine how the use of the ‘Live Action’ RG feature then influences those behaviors.

Recommendation Five

Continue to conduct additional research to explore player behavior and response to the system in order to inform and support VLT program management and the process for province-wide implementation.

The player database is an important and unique source of player information that should continue to be mined to gain additional insight about how players interact with the machines. It is possible to use the database to explore the behavioral impact of various game features, policy, practices, and outcomes. Additional analysis will be helpful in informing on-going responsible gambling research and development. Specifically, additional analysis exploring use of ‘Live Action’ or other issues related to province-wide implementation are advised in order to inform the process.

For detailed information surrounding the methodology, analysis and results of the study refer to full report available on the website for Nova Scotia Gaming Corporation or by contacting NSGC at <http://www.nsgc.ca> (Assessment of the Behavioral Impact of the Responsible gaming Device (RGD) Features: Analysis of Nova Scotia Player-card Data, T. Schellinck and T. Schrans, Focal Research Consultants Limited, February 2007).