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AN EMPIRICAL INVESTIGATION INTO THE DRIVERS OF RE-SUBSCRIPTION IN MASSIVELY MULTIPLAYER ONLINE GAMES: A COMMITMENT TRUST THEORY APPROACH



Dr David Grundy



Research: Overview

- Relationship Marketing PhD which is examining, using Commitment-Trust Theory (Morgan & Hunt, 1994), the customer decision to maintain subscribing to a massively multiplayer online game in a business environment contaminated with grey market activity.
- This PhD is **not** an examination of initial purchase decision, but of ongoing, post-purchase, customer retention.

Three major objectives

- Firstly, which of the relationship marketing customer service constructs identified from the literature are important in the re-subscription decision made by customers?
- Secondly, are there relevant factors in the context which affect these customer service constructs?
- And finally, how do the key constructs interact to influence the re-subscription decision?



Computer Games as a Creative Industry: Overview

- Worldwide the computer games industry is worth around \$30bn a year.
- In the UK the computer games industry is around £3bn a year in size (Economist, 2009)
- The UK is has the 4th largest games industry in the World (Economist, 2009).
- The North-East of the UK has five major games studios alone, with around 280 firms based in the UK. (HM UKT&I, 2009)
- Around 1,000 people work in computer games in North East of England. With around 10,000 people working in the computer gaming sector in the UK (Skills Council for Creative Media, 2009)



Computer Games as a Creative Industry: MMO's

- Massively Multiplayer Online (MMO's) computer games estimated at a \$9bn worldwide segment of the market.
- Persistent online worlds, open ended, benefits regarding copying and piracy, based on controlled servers.
- Many different business models including; subscription based, free to play, micro-transactions, one-off fees.
- The largest subscription based game is Blizzard Entertainment's World of Warcraft with 12m subscribers paying an average of \$10 a month, with 62% of the subscription market (in perspective, the next biggest is Runescape at 7%)

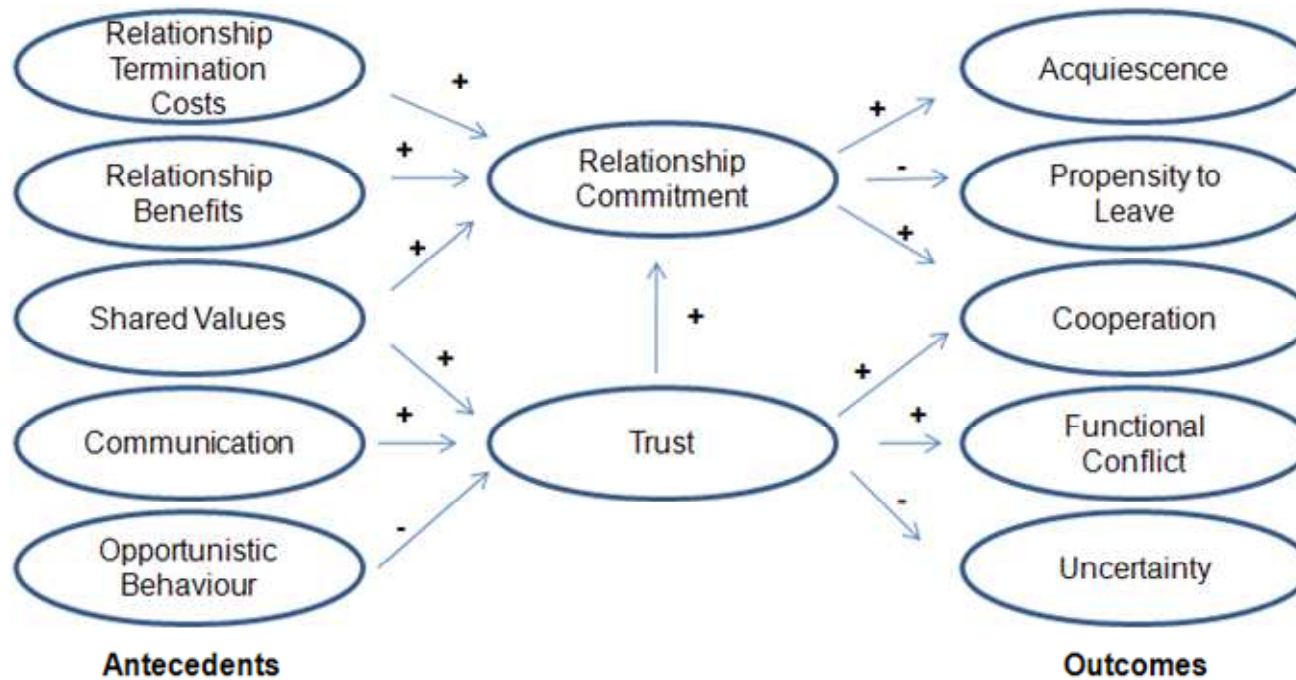


Monthly Entertainment Share of Wallet (%)

Category	All US Homes	Video Game Buying Homes
Participating in Activities such as dining out, shopping, going to a museum	24.8%	20.4%
Regular TV packages (such as basic cable)	17.9%	13%
Participating in non-media activities at home, such as hobbies	6.9%	7.7%
Attending live events (such as concerts or sporting events)	5.9%	6.3%
Seeing movies at a theatre	5.4%	5.9%
Cellular phone-related entertainment (all but calling plan)	5.3%	5.3%
Video game content (new and used games, downloadable content, rentals and peripherals)	4.9%	9.3%

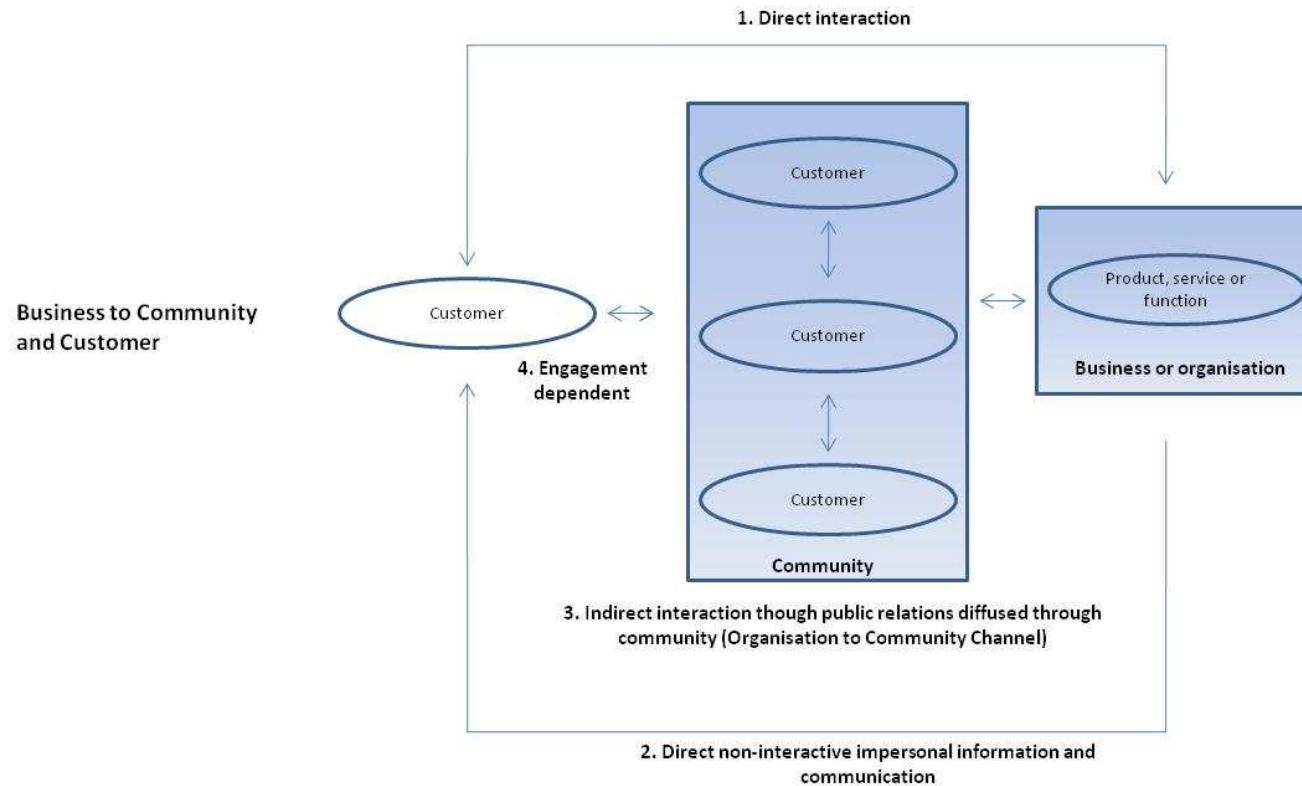
2009 Average US Monthly Entertainment Expenditures (Nielson, 2010a)



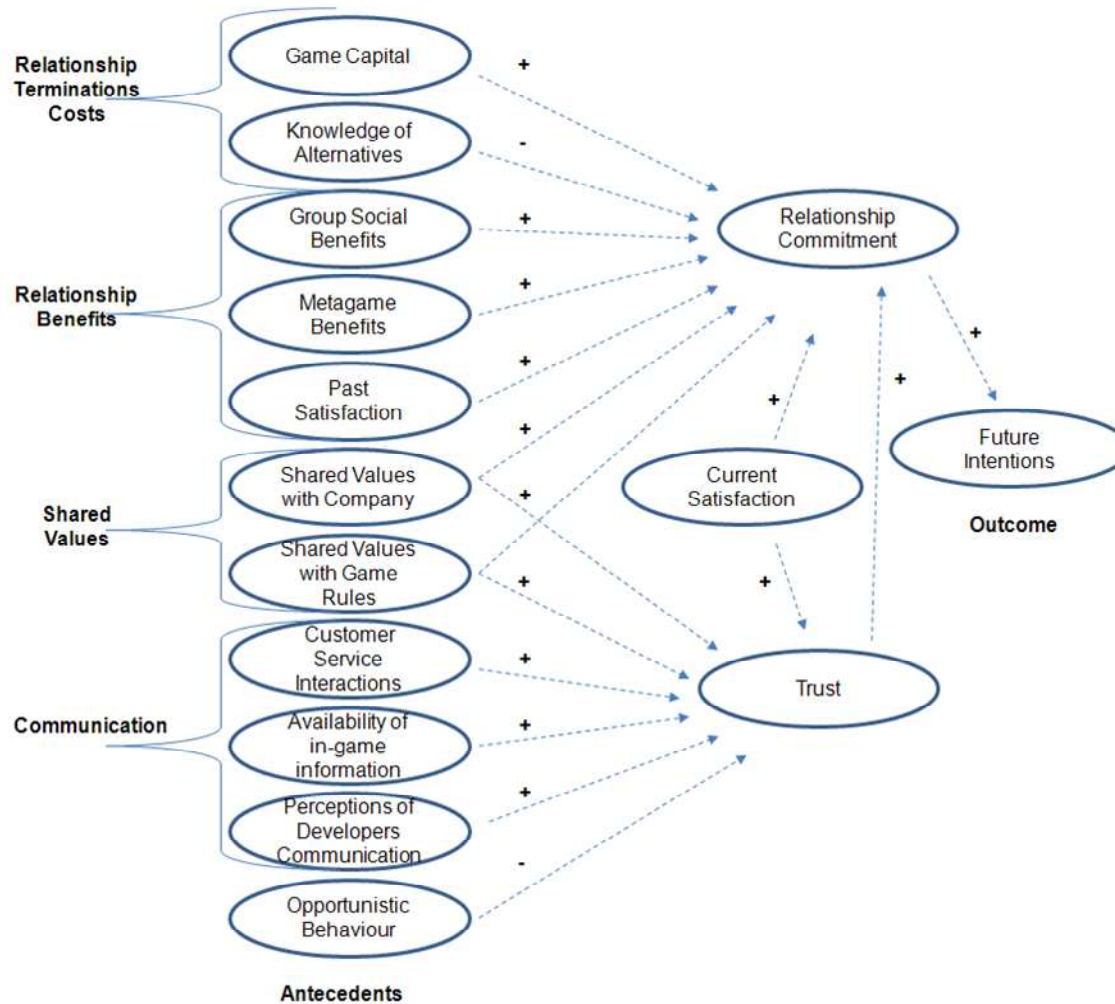


Morgan and Hunt (1994a) Original Framework

The Nature of the Relational Channel: Overview



The relational channels in mass market business to customer relationships which have communities or consumptive tribes



A Model of Commitment and Trust in the MMO game setting



Methods: Overview

- Literature Review (**Construct Validity, Content Validity**)
- Two prior studies into area (Published as Grundy, 2008a; Grundy 2008b) examining gold selling and methodological issues. (**Construct Validity, Content Validity**)
- Based on wide Literature Review and conclusions of Grundy (2008a), web-based Survey chosen. Surveys extensively used in Commitment-trust theory research. Web Based survey used in Li, Browne & Wetherbe (2006) (**Instrument Validation**)
- Pilot Survey (April/May 2009) (**Construct Validity, Content Validity**)
- Web-based Survey; Methodological sampling issues (**Representativeness**)
- Engaged with MMO “Community Leaders” in promoting survey. Survey also made use of social networking sites. (**Representativeness**)
- Main Data Collection Period beginning first three weeks of June 2009 (1st till 19th)
- 2,226 started survey; 1,528 completed survey. Statistical Analysis tests of **Internal Reliability** (Cronbach's α , correlations) and **Structural Equation Modelling** (using AMOS in SPSS)

	This Study	Seay et al. (2004)	Yee (2006)	Williams et al. (2008)
Sample Size	2226	1836	30000*	7000
Sample Population	All MMO Gamers	All MMO Gamers	All MMO Gamers	Everquest 2 Only
Data Collection Procedure	Self administered online questionnaire	Self administered online questionnaire	Self administered online questionnaire	Self administered online questionnaire
Data Collection Method	Message Boards and website promotion related to online gaming	Message Boards and website promotion related to online gaming	Message Boards and website promotion related to online gaming	Operator Sony Online Entertainment cooperated with the research team and allowed access to subscribers
Gender				
<i>Male</i>	90.5% (1357)	90% (1649)	85.40%	80.8% (5656)
<i>Female</i>	9.5% (142)	10% (187)	14.50%	19.2% (1344)
Age				
<i>Mean</i>	28.3	27	26.57	31.16
<i>median</i>	27	N/A	25	31
<i>Min</i>	18	12	11	12
<i>Max</i>	69	68	68	65
Average hours played per week	23.77	21	22	25.82

* Data covers multiple individual surveys over a three year period

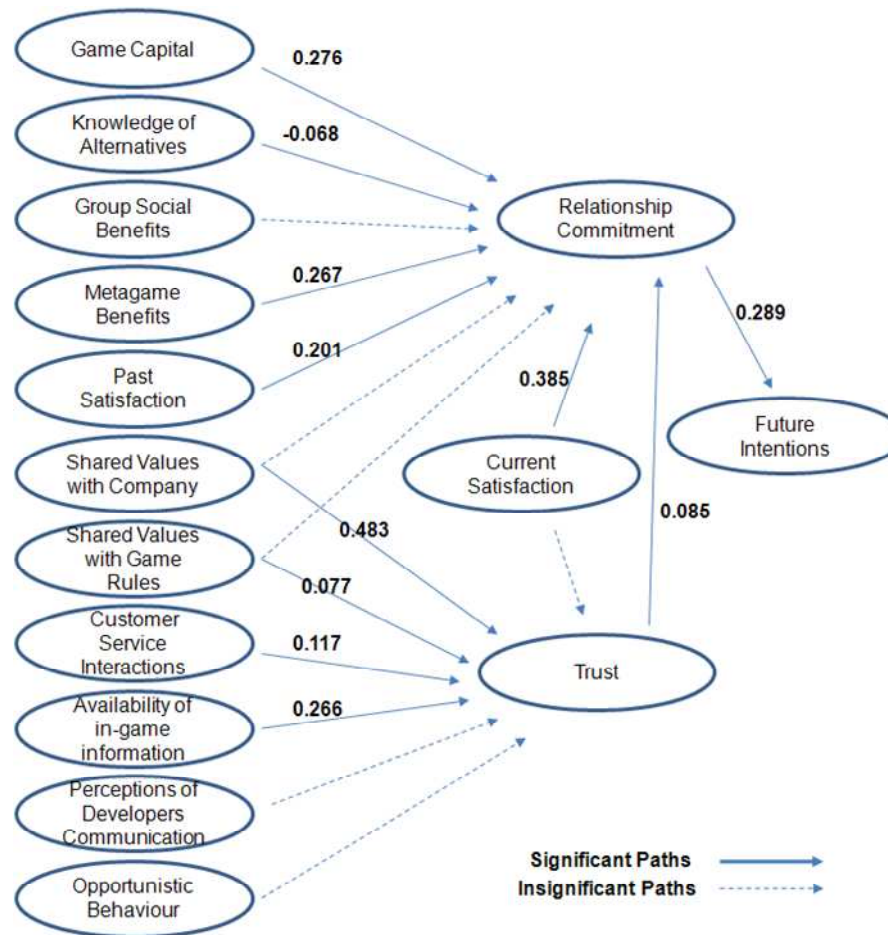
Comparison of this study's data collected with other large scale research projects



Survey Descriptive Statistics

Gender Divide	90% Male, 10% Female
Average Age	28.35 years old
Respondent Location	30% USA, 20% UK, 4% Canada, 3% Sweden, many countries represented at less than 3%
Employment	52% in Full time employment, 22% Students
Current marital status	57% Single/Divorced/Widower, 39% Married/Engaged/Living with a Partner
Average hours spent playing per week	23.77 hours a week
Method of Payment	50% pay monthly, 7% Bi-Monthly, 18% three monthly, and 13% every 6 months
Renewal	75% of respondents subscriptions automatically renewed





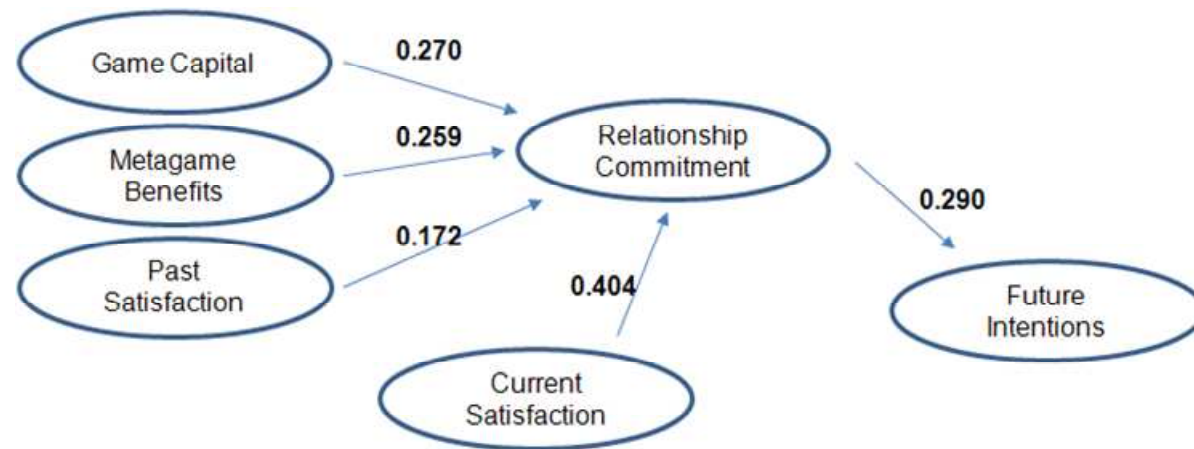
Seventeen Path Modelling with Standardised Regression Estimates



Goodness of Fit Test	Thresholds and Interpretation	Seventeen Path Model
Relative Chi Squared	<i>... different researchers have recommended using ratios as low as 2 or as high as 5 to indicate a reasonable fit. (Marsh and Hocevar, 1985, p.567)</i>	Relative Chi Squared= 4.636
Comparative Fit Index (CFI)	<i>In our experience, models with overall fit indices of less than .9 can usually be improved substantially. These indices, and the general hierarchical comparisons described previously, are best understood by examples. (Bentler and Bonett, 1980, p.600)</i>	CFI= 0.899
Normed fit index (NFI)		NFI= 0.875
Incremental Fit Index (IFI)		IFI= 0.900
Root mean square error of approximation (RMSEA)	<i>Practical experience has made us feel that a value of the RMSEA of about .05 or less would indicate a close fit of the model in relation to the degrees of freedom. (Browne and Cudeck, 1993, p.239)</i>	RMSEA= 0.04

Goodness-of-Fit Statistics for Seventeen Path Model





Five Path Modelling with Standardised Regression Estimates

Goodness of Fit Test	Thresholds and Interpretation	Seventeen Path Relationship model	Five Path Relationship model
Relative Chi Squared	<i>... different researchers have recommended using ratios as low as 2 or as high as 5 to indicate a reasonable fit. (Marsh and Hocevar, 1985, p.567)</i>	Relative Chi Squared= 4.636	Relative Chi Squared= 4.878
Comparative Fit Index (CFI)	<i>In our experience, models with overall fit indices of less than .9 can usually be improved substantially. These indices, and the general hierarchical comparisons described previously, are best understood by examples. (Bentler and Bonett, 1980, p.600)</i>	CFI= 0.899	CFI= 0.918
Normed fit index (NFI)		NFI= 0.875	NFI= 0.909
Incremental Fit Index (IFI)		IFI= 0.900	IFI= 0.918
Root mean square error of approximation (RMSEA)	<i>Practical experience has made us feel that a value of the RMSEA of about .05 or less would indicate a close fit of the model in relation to the degrees of freedom. (Browne and Cudeck, 1993, p.239)</i>	RMSEA= 0.04	RMSEA= 0.06

Goodness of Fit Statistics for Five Path Model

