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The Impact of Introducing a Customer Loyalty Program On Category Sales and Profitability

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e p c of n od c n C o e Loy y o
On C e o y e nd of y

ABSTRACT

he hors propose nd e piric y in estig te the effect of c tegory specific ttri es s i port nt f ctors ssoci ted ith the ch nge in pre ers post oy ty progr introd tion c tegory s es nd profits. C tegory penetr tion nd freq ency re positi e y corre ted ith oy ty progr s ccess ith n incre se in s es nd profits, here s i p se ying nd i ity to stoc pi e sho neg ti e corre tions. F ther ore, tho gh introd cing oy ty progr gener tes i edi te spi es in s es nd profits in ost c tegories its i p ct is gener y short i ed. t res ts in n initi redistri tion of c tegory e pendit res d ring the progr nch, here cons ers see ing y shift cons ption fro ight y p rch sed c tegories to he i y p rch sed c tegories. B t the effect soon erodes. Ne erthe ess, y ode ing the diff sion process of oy ty progr perfor nce, this p per finds th t penetr tion r te nd pri te e sh re re ey dri ers of c tegory s s t in e gro th. he e o tion of cons er price e sticities nd pro otion sensiti ities re tr c ed pre nd post oy ty progr introd tion, nd profit dri ing c tegories re identified ccording to their c tegory ch r cteristics. Ne insights re offered on c tegory n ge ent nd ong ter progr p nning.

ey ords oy ty progr s, c tegory n ge ent, perfor nce etrics

concern of n ge ent Rese rchers h e een sing c sto er e e etrics s ch s spending e e s nd p rch se freq encies nd c sto er e e oti tors s ch s re rd types nd e erships fro ho seho d p ne d t Other rese rch so e ines the i p ct on r nd r et sh re h rp nd h rp nd on s es in sing e c tegory D ze nd och o e er re ti e y itt e e piric rese rch e ists in estig ting hether nd ho oy ty progr or s in the store nd cross stores fro the fir s perspecti e phe i ited e isting rese rch th t does in estig te store e e perfor nce Leenheer et n eerde nd Bi o t 4 nd dr s co p risons on e ers ers s non e ers h s een criticized for ethodo ogic i it tions s ch s se f se ection i s nd endogeneity

econd y the ethodo ogic i it tions re so res t of n in ppropri te y se ected

onger ter co it ent fro oth ret i ers nd cons ers de y e o d i e to e ine oth the pre nd post progr introd ction period s if it s n t e peri ent hich is h t is done in this p per p e s rizes se ecti e st dies ong ith the nit of n ysis nd o ser tion indo di ensions O st dy is niq e in sing ongit din store e e d t to e ine the perfor nce of c sto er oy ty progr ddressing n geri concerns on in ing oy ty progr to store perfor nce

L st y hi e rese rchers h e e ined oy ty progr s in riety of c tegories ny one st dy is ost ys i ited to sing e c tegory t is not on y diffic t to e co p risons cross ir ines h rp nd h rp fin nci ser ices Bo ton et nd ret i ers Le is t res ts re so ner e to potenti oder ting effects of c tegory ch r cteristics on store oy ty Zh ng G ng r nd eeth r n n f ct c tegory perfor nce y e syste tic y dri en y the ro e of the c tegory Dh r et A tho gh pre io s rese rch foc ses on cons er f ctors progr f ctors nd co petition f ctors s dri ers for s ccessf oy ty progr s Li nd Y ng c tegory f ctors s ch s c tegory e p nd i ity nd prod ct s stit i ity re often i p icit y c pt red y co petition f ctors p rtic r y hen n ysis is cond cted t one c tegory

Fo et s rize the iter t re on the deter in nts of price pro otions effecti eness hirteen o t of 4 p pers they e ined isted c tegory ch r cteristics s their e p n tory ri es i i r y r eting ctions s ch s oy ty progr perfor nce y e inf enced y c tegory ch r cteristics F der nd Lodish n f ct pre io s iter t re h s doc ented so e e idence of oder ting effects of s ge e e s tho gh not necess ri y e ph sizing c tegory ch r cteristics For e p e Le is finds th t the e e of re rd recei ed y c sto er in prior period positi e y ffects the pro i ity of ing rger sized

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he det i ed re ie is i e in the e ppendi

tr ns ctions in the c rrent period. Li finds th t cons ers ith o or oder te initi p tron ge e e s gr d y p rch se ore nd eco e ore oy to the fir fter- oining its oy ty progr , Leenheer et , s st dy s

These ri es re consistent ith F der nd Lodish s e r ier fr e or s e s the pop r sche e pro oted y the Food M r eting nstit te FM hich so i izes cons er sed c tegory ro es defined ccording to penetr tion nd freq ency, herefore c tegories re c ssified into fo r gro ps respecti e y p high penetr tion high freq ency n c o penetr tion high freq ency r y n nc r high penetr tion o freq ency nd n o penetr tion o freq ency ith different cons er oti tions cross fo r gro ps it is high y i e y th t the effecti eness of r eting ctions so differs y c tegory Dh r et For e p e the he y ser effect och et 4 o d predict th t cons ers re ore responsi e in c tegories th t re p rch sed ore often nd he i y s ch s st p es nd ess so in fi ins

Another i port nt or is y N r si h n et ho e ine the re tionship et een pro otion e sticities nd ch r cteristics in the fr e or of r nd s itching store s itching c tegory e p nsion nd p rch se cce er tion hey hypothesize th t c tegory penetr tion interp rch se ti e price pri te e sh re n er of r nds i p se ying nd i ity to stoc pi e re corre ted ith pro otion response e inc de o e ri es s e s de s er ge percent off hich is sed s dependent ri e in their p per

igher c tegory penetr tion e ns rger potenti c sto er se th t c n gener te ste dy stre of re en es nd d t ith the oy ty progr shorter p rch se cyc e enco r ges repe ted p rch ses ithin short ti e fr e price e e s nd de s re direct y re ted to c sto ers e periences nd e pect tions o t the oy ty progr C tegories ith gre ter pri te e sh re o f e i e se of d ertising nd pro otion r nd pro ifer tion ithin c tegory s ggests roo for prod ct differenti tion nd th s d t pp ic tions on in depth c sto er seg ent tion R ther th n ind cing one ti e i p se ying nd str tegic stoc pi ing

s *M* ,r/c , By contr st›non e ers p y the reg r price itho t pro otion or e ers disco nt of › hich e denote s *NonM* ,r/c , f reg r pro otion occ rs ›then the

Loy

the r tio of ct price to reg r price inste d of ct ret i price is sed for co p ti i ity cross c tegories. O n ysis is perfor ed c tegory y c tegory. Yet, e fo nd si i r esti tes for the oy ty progr hether they ere c c ted on the sis of price indices or ret i prices. he price e sticities of r nd t store t ti e, c n e co p ted y s ting cross the coefficients of the fo o ing ri es

PriceE sticity_{ist} n *M* *r c* n *r c* *Loy* n *M* *r c*

Loy n *M* *r c* *Loy* n *r c*

n Eq tion , n *M* *r c* ser es s the se ine price, nd is eq to n *NonM* *r c* efore the progr introd tion or hen there is gener pro otion to c sto ers n *r c* c pt res e ers disco nts fter the progr introd tion *Loy* n *M* *r c* denotes the ch nge in price sensiti ities d to the introd tion. For e p e, c sto ers y for cert in e pect tions o recei ing etter prices, or they y etter nderst nd store s pricing po icy nd tr c their cons ption h its ith the oy ty c rd nd re ted co nic tion efforts. L st y, *Loy* n *M* *r c* nd *Loy* n *r c* ref ects the doption nd penetr tion effect o er ti e for oth se ine price nd e ers disco nts.

he Are no Bond test indic tes tocorre tion in the p ne d t . herefore, r ndo effects GL ode , d sted for tocorre tion, is sed for p r eter esti tion. he ss ption is th t the r ndo effects re ncorre ted ith the independent ri es. herefore, e h e

4

here

n such ode e ch intercept is r ndo de i t

gr d y e perience di inishing effect here s c tegories th t s ffer fro s es hit t the eginning e ent y reco er

i i r p tterns re fo nd for the effect on profits price e sticities nd pro otion sensiti ities Ag in *Loy* *ro* nd *Loy* *ro* re the esti tes for *Loy* nd

in gener itt e ess neg ti e th n och et , s. D e to the n t re of sc nner d t o r price e sticities re i e y to e i sed p rds Bi o t et , 4,

p e. c . d nd. e report the esti tes for the effect of introd ing oy ty progr on on s ys co pons nd s es pro otions fro the s es eq tion i i r to Leenheer nd Bi o t ho find no effect of pro otions on percei ed effecti eness in their s ey e o ser e th t the inter ction et een gener pro otions nd oy ty progr h s i ed o tco es cross c tegories b hi e there is strong presence of synergies ong r eting ctions in so e c tegories others see to e perience neg ti e inter ction et een the t o too s M n geri y in these c tegories short ter pro otions tend to or in opposition to str ct red oy ty progr hich is t pon ong ter c sto er no edge nd c sto er oy ty nd they y eco e s stit tes for e ch other For those c tegories hich do en oy synergistic effects et een the t o co pon pro otions see to perfor etter th n s es nd on s ys n pr ctice co on t rgeting effort is sending o t co pons th t re t i ored to cons ers p rch se preferences hich re inferred fro the progr e ership d t se tho gh Do inic s y not h e h d th t degree of

he o e o ser tion offers n interesting f ct the dyn ic effect of introd ing oy ty progr nd progr diff sion re different not on y in ter s of gnit de so in ter s of direction cross different c tegories ince the direction of the effect is oint y deter ined y the sign of *Loy* nd *Loy* e define direction ri e *Loy* nd *Loy* s

ince the coding is c tegoric e dd the direction s for nd together to yie d in r nge of to for *Loy* here n indic tes est perfor nce nd indic tes orst perfor nce he ost f e i e coding is indic tor ri es directions for s es ti es directions for profits ess one e so e ine ore p rsi onio s oper tion iz tions nd the s st nti e conc sions do not ch nge inc ding sing *Loy* sing e ri e e then regress the c tegory ch r cteristics on direction s g in As sho n in e high penetr tion nd high pri te e sh re c tegories re positi e y corre ted ith strong positi e diff sion effect hey re the dri ers of c tegory s s t in e gro th e do not find signific nt ssoci tion et een c tegory ch r cteristics nd the effect of oy ty progr on price e sticities or pro otion sensiti ities

o ne C ec

First hi e the n t re of the d t cre tes endogeneity concerns e perfor the t o st ge e st sq res L esti tion ith prices nd pro otions eing instr ented e se er ge prices nd pro otions in the other c tegories d ring the s e ee s e s o n prices nd pro otions d ring the s e ee ye r go s the instr ent ri es he L res ts do not differ fro o GL res ts

their spending e e s fo o ing the progr introd tion Le is Li , B it is so i e y th t s st nti incre ent s es to c s shoppers th t re ttr cted to the store offset s sidies to those re dy oy c sto ers L nd Be , his is ec se if the first e p n tion ho ds the ch nge in oy c sto ers cons ption p tterns o d persist r ther th n on y gener te short ter spi es in ny c tegories O f findings see to s ggest th t oy ty progr is effecti e in ro sing shoppers interests nd ttr cting re en e stre s in the short r n re ity Do inic s oy ty progr reported strong ccept nce of its Fresh es oy ty c rd ith percent s es incre se nd , percent profit incre se in the s seq ent fisc q rter According to Morg n t n ey the in est ents fir Do inic s q dr p ed its e rnings per sh re d ring the first q rter of , As its President nd Chief E ec ti e Officer Ro ert A M ri no p in spite of so e initi osses ttri ted to re ode ing cti ities they conser ti e y ppro ched the introd tion of o f Fresh es c rd As res t c sh f o s stronger th n o d h e een the c se h d the co p ny een ore pro otion d ring the introd tory ph se of the c rd progr ,

econd y hi e the c tegories do not yie d con ergent nd deter in nt res ts c tegory ch r cteristics oder te the effecti eness of oy ty progr s pecific y oy ty progr perfor s est in c tegories ith high penetr tion r te high p rch se freq ency the , *p* o i p se nd o i ity to stoc pi e e ch is ssoci ted ith iFreeyith iFn s es nd

A oy ty progr see s to e ost effecti e in he i y p rch sed FMCG c tegories for se er re sons. First, these c tegories o ore ccesses nd p rch ses, there y pro iding ore incenti es nd gre ter in o e ent for c sto ers enro ed in the oy ty progr i ets

sho d foc s on their core co petencies y in esting ore r eting efforts in pro oting the high penetr tion nd high freq ency FMCG c tegories hi e pre enting or prep ring for ndesir e perfor nce in the o penetr tion nd o freq ency c tegories Different pricing po icies c n e i p e ented for different c tegories he ost p ch sed c tegories req re ore r eting ctions th t foster c sto er no edge nd n re ong ter re tionships here s infreq ent y p ch sed c tegories y h e to co pete e en ore intensi e y on prices

prod cts in order to recei e rger progr enefits for e p e ore co pons o e er s cons ers get f i i r ith the progr the fe er of oin the progr no nd en oy the s ings coo s do n Cons ers in ggreg te see to e shifting c to their origin cons ption p tterns C tegory sh res re re nced in the ong r h itho t necess ri y n so e incre se in tot e pendit res

By tr c ing progr diff sion o er ti e nd coding the signs of its directions o n ysis offers ne insights on ong ter progr p nning nd design ith respect to c tegory n ge ent b e f ther p t directions of oy ty progr in tri s in p e. p e. presents the es nd n geri i p ic tions for the e o tion of oy ty progr effect he ce *n nc r* represents c tegories th t en oy gro th t incre sing positi e diff sion r tes he ce *o op rdy* denotes c tegories th t s ffer fro contin o s nd rger osses o er ti e he ce s *r o* nd *C o* respecti e y s rizes the rest c tegories th t e perience short ter spi e or dip t the introd ction t the effect gets gr d y tten ted in the ong r h E ining ri tions in the direction of progr e o tion nd e find th t penetr tion nd pri te e sh re re ey dri ers of c tegory s s st in e gro th

here re three ctions th t n gers c n t e Fir

CONCL ON AND D G ON O A C

Despite the gro ing s spicion to rds oy ty progr s effecti eness t the c sto er e e in ttit din nd eh ior r eting rese rch there is itt e so id e piric e idence on ho oy ty progr inf ences store nd c tegory perfor nce o er ti e. his rese rch sheds ight on the iter t re in fo r ys First it is the first e piric n ysis th t ongit din y e ines the i p ct of oy ty progr introd ction on c tegory s es nd profits sing pre nd post progr store tr ns ction d t , e find e idence th t introd cing oy ty progr is effecti e in ost c tegories econd y this rese rch de onstr tes th t hi e oy ty progr perfor nce is not hi ers y s tisf ctory c tegory ch r cteristics re n i port nt oder tor, C tegory penetr tion nd freq ency re positi e y corre ted ith oy ty progr s ccess here s i p se ying nd i ity to stoc pi e sho neg ti e corre tions. L st y e ode the diff sion process nd offer e insights on the e o tion of oy ty progr perfor nce. e find hi e the effect for ost of the c tegories is short i ed penetr tion r te nd pri te e sh re re ey to c tegory s s st in e gro th.

his rese rch pro ides first sn pshot in e ining the i p ct of introd cing oy ty progr o er ti e in n t setting. D e to d t i i ity this p per e ines on y one ret i er nd here stores in the d t set introd ced the oy ty progr t the s e ti e. F re rese rch co d in estig te dyn ic nd co petiti e str ct re of oy ty progr s. For e p e e h e ccess to on y ee s of o ser tions fter the introd ction of the progr , t o d e interesting if e ere e to co ect ch onger ti e series e did see this y s ing oth M Chic go nd Do inic s t did not o t in this d t , t is so interesting to note th t Do inic s or co petitor e e Osco introd ced its re rd progr in nd re ped it in . F re rese rch c n e ine ho co petition oder tes oy ty progr

REFERENCES

e ey Christopher M te De h gen nd Esther Y en Re ding Cons er Loy ty Cons er echnogr phics North A eric Forrester Rese rch

i By ng Do Mengze hi nd nn n rini s n M n ging C p city hro gh Re rd Progr s *M n n, c nc* 4 4 4

i By ng Do Mengze hi nd nn n rini s n Re rd Progr s nd p cit Co sion *M r n c nc*

i etz R n nd t r i onson he diosyncr tic Fit e istic Effort Ad nt ge s Deter in nt of Cons er Response to Loy ty Progr s *o rn o M r n rc* 4

op e Pr een cott A Nes in B ohong n Y cheng n nd nith in th n A Dyn ic tr ct Mode of the p ct of Loy ty Progr s on C sto er Beh ior b or ing P per

op e Pr een nd cott A Nes in he Econo ic i ity of Freq ency Re rd Progr s in tr tegic Co petiti e En iron ent *o M r n c nc* rtic e

L R i nd D id E Be he p ct of Freq ent hopper Progr s in Grocery Ret i ing *n, M r n nd cono c*

Leenheer orn nd p o A Bi o t Adoption nd Effecti eness of Loy ty Progr s he Ret i er s Perspecti e *M por,* No P

Leenheer orn r d n eerde p o A Bi o t nd A e idts Do Loy ty Progr s Re y Enh nce Beh ior Loy ty An E piric An ysis Acco nting for e f e ecting Me ers *n, rn on o rn o rc rn M r n*

Le y D nie ipeng A n Chen Georg M er h nt n D t nd M r Bergen o id y Price Rigidity nd Cost of Price Ad st ent *cono c*

Le is Mich e he nf ence of Loy ty Progr s nd hort per Pro otions on C sto er Retention *o rn o M r n rc*

Li Y ping he Long per p ct of Loy ty Progr s on Cons er P ch s

PR Ne s ire Do inic s per r ets nc Anno nces Record First Q rter Res ts +
M rch

R g oh n The Effect of Price Pro

TABLE [illegible] Category Characteristic National Level for All Dominick's Categories

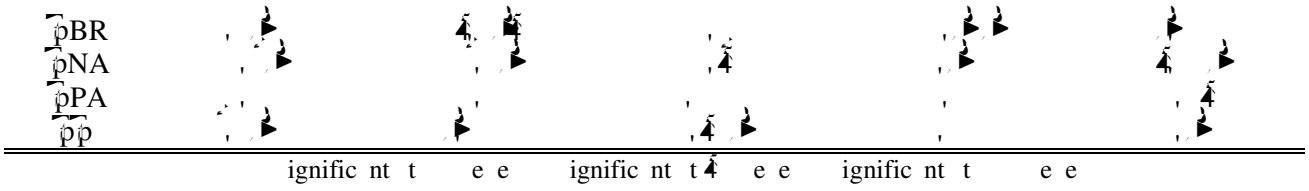
Category Name	Category Code	Buying Generation	Purchase Cycle (freq)	Deal Depth	[illegible] Price	Ap[illegible]	[illegible]	No. of Brand	[illegible] Level
Analgesics	ANA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bath Soap	BAp	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Beer	BER	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]

ABL e Ope t on z t on

e	De c p t on	pec ed n of e Coeff c en t
Ln es$_{ist}$ or Ln Profits$_{ist}$	Log s es or gross rgins of r nd store co in tion d ing gi en ee	D
Me Price$_{ist}$	Per nit ret i price of r nd i t store s d ing gi en ee er ging cross MPCs	
Co pMe Price$_{ist}$	A er ge price of co peting r nds for p rtic r r nd t gi en store d ing gi en ee	
DPrice$_{ist}$	Me ers disco nt s the difference et een Me Price$_{ist}$ nd the highest ret i price cross stores d ing th t ee in the sence of gener pro otion	
Pro oB$_{ist}$ Pro oC$_{ist}$ Pro o $_{ist}$	An AC eighted ri e indic ting the presence of pro otion cti ities in the for of on s ys co pons or s es	
Co pPro oB$_{ist}$ Co pPro oC$_{ist}$ Co pPro o $_{ist}$	Pro otion cti ities of co peting r nds for p rtic r r nd t gi en store in gi en ee in the for of on s ys co pons or s es	
toreBr nd$_i$	ndic tor indic ting hether p rtic r MPC is pri te e	
Br nd h re$_{ist}$	Br nd s r et sh re t store s d ing gi en ee	
MpcCo nt$_{ist}$	A co nt ri e descri ing the n er of MPCs r nd c rries in gi en store d ing gi en ee	
Br nd Ne ist	N er of MPCs for r nd th t re ne fter the introd ction of the oy ty progr	

ABL e fo e ffec of Loy y o on e nd of

C teg ory	LoyPg es	LoyPg es	Diff	Min LoyPg es	Fin	M	LoyPg es	Fin	LoyPg rofits	P	LoyPg Profits	Diff	Min LoyPg Profits	Fin	M	LoyPg Profits	Fin



ABL e ffec of C e o y C c e c on Loy y o e fo nce

Dependen e	Loy e	Loy of	Loy D ec on
Penetr tion			

ple of Me e nd Non e e ce

Ad e n pend e fo Do n c ne ood nd e e O co