



\$VVHVPHQW RI &OLHQW 6DWLVIDFWLRQ RQ )  
:RQML +RVSLWDO (WKLRSLD

I &OLQ 'LDJQ RVLV DQG

6HODOH &DPSXV \$GGLV \$EDED 8QLYHUVLW\ (WKLRSLD  
&RUUHVSRLQJ DXWKRU :DNMLUD %\$ 6HODOH &DPSXV \$GGLV \$EDED 8QLYHUVLW\ (WKLRSLD  
5HFHLYHG)GDWH \$FFHSWHG)GDWH 3XEOLVKHG GDWH )HE  
&RSULJKW :DNMLUD %\$ 7KLV LV DQ RSHQ DFFHVV DUWLFOH GLVWULEXWHG XQGHU WKH WHUPV RI WKH  
GLVWULEXWLRQ DQG UHSURGXFWRQ LQ DQ\ PHGLXP SURYLGHG WKH RULJLQDO DXWKRU DQG VRXUFH D

\$EVWUDFW  
  
%DFNJURXQG 3DWLHQWV KDYH WKH ULJKW WR H[SHFW TXDOLW\ RI FDUH 3UR  
VHUYLFHV LV DQ LPSRUWDQW WDVN IRU FDUH SURYLGHUV VR DV WR LQFUHDVH V  
+RVSLWDO EDVHG SDWLHQW VDWLVIDFWLRQ RQ IDPLO\ SODQQLQJ VHUYLFH XWLO  
DYDLODELOLW\ DQG TXDOLW\ RI IDPLO\ SODQQLQJ VHUYLFHV DUH EHOLHYHG WR KD  
GHFOLQLQJ IHUWLOLW\ UDWHV LQ GHYHORSLQJ FRXQWULHV  
  
2EMHFWLYH 7KH REMHFWLYH RI WKLV VWXG\ LV WR DVVHVV WKH FOLHQW VDWL  
SURYLGHG LQ ZRQML KRVSLEDO 2URPLD VDWL (WKLRSLD  
  
0HWKRG &RQVWV VHFWRQDO VWXG\ GHVLJQ ZLOO EH XVHG GXULQJ WKH VWXG\  
\$OO ZRPHQ RI UHSURGXFWRQ DJH JURXS ZKR YLVW ZRQML KRVSLEDO  
SURYLGHUV XULQJ WKH VWXG\ SHULRG ZHUH VRXUFH SRSXODWLRQV \$OO IDPLO  
ZHUH DYDLODEOH GXULQJ WKH VWXG\ SHULRG ZHUH WDNHQ DV VDPSOH 7KH VD  
VDPSOLQJ PHWKRG 'DWD ZHUH FROOHFWHG E\ IDFH WR IDFH LQVHUYLHZ DQG REV  
(QJOLVK YHUVLRQ VHPL VWUXFWXUH TXHVWLRQQDLUH 7KH TXDOLW\ RI GDWD F  
FOHDU LQVWUXFWLRQV WR WKH GDWD FROOHFWRUV 7KH UHVXOWV RI WKH VWXG\  
  
5HVXOWWRWDO RI KXQGUHG IHPDOH FRQWUDFHSWLYH XVHUV DQG ILYH VHUYLFH  
HLJKW SHUFHQW DUH LOOLWHUDWH ZHUH PDUULHG DUH \HDUV ROG  
GRPLQDQW QXPEHUV \UH f\UFOLHQWV NQRZ IDPLO\ (P0@ A 0PHUH W ,QMHWLRQ  
"A0@P€5P€6b `p0•P€@€€ p0A XVHp  
  
\$ERXW "A0\`tP€6b(pUFOLHQW(pU DV\`t p\`TP p 2\`TÀ •UPDWLRQ DQG VHUYLFH WRJH  
\,pUH f",p`dA€ p`0KDYf",p`00PLQ JHPH("P€6b("VHUYLFH \,pUH f",p`dA€ p,p€A0 "A0@H GQ\W  
WHUP IDPLO\ (t ODQQLQJ \$OPRVW "A0\`t@`dA€ p\`@ €P€0QRW (tVDWLVLHG IUP0I  
VDWLVIDFWLRQ ILFLHQW  
PDULWDO"VWDWXV DQG HGXFDWLRQ ZHUH IU€ p0A 0UWDQW IDFWUP`  
  
&RQFOXVLRQHQW("`@pA`•@`pA 0RQ XWLOLJDWLRQ RÂ("•@ A0A,&SODQQLQJ("`€P•A  
LQIRUPHG ZHOORQ VKRUW WHUP FRQWUDFHSWLYHV PHWKRG WKDQ RQ ORQJ WH  
KRUPRQDO PHWKRGV LQMHWDEOH DQG RUDO FRQWUDFHSWLYH \$LOO EHLQJ G  
LQIRUPDWLRQ ZLWK WKH VHUYLFH DQG QRW LQIRUPLQJ RQ ORQJ WHUP IDPLO\ S  
LPSRUWDQW IDFWRUV DIIHFWLQJ FOLHQW VDWLVIDFWLRQ RQ IDPLO\ SODQQLQJ XW  
FOLHQW VDWLVIDFWLRQ RQ XWLOLJDWLRQ RI IDPLO\ SODQQLQJ VHUYLFHV



6WXG\ SRSXODWLRQ DOO IHPDOH )3 XVHUV DJH JURXS DQG VHUYLFH  
SURLGHUV ZKR ZLOO EH DYDLODEOH GXULQJ GDWD FROOHFWLRQ SHULRG LQ :RQ  
+RVSLWDO

6DPSOH VLJH GHWHUPLQDWLRQ

H VDPSOLQJ WHFKQLTXH ZDV FDOFXODWHG EDVHG RQ WKH SURSRUWLRQ RI  
IDPLO\ SODQJLQJ WJVLVLFH JLYHQ ZKLFK LV  
ZLWK FRQ}GHFYHO &, DQG SURSRUWLRQ VLJH  
ZDV WDNHQ Q WKH UHTXHUHQV DQGSODJLQJ GRUPDO  
GLVWULEXWLRQ YDOXH DW &, S SURSRUWLRQ RI SRSXODWLRQ ZLWK  
WKH VDPH FKDUFWHULVWLF RU SURSRUWLRQ RI ZRPHQ DJH DPRQJ )3  
FOLM}HG S G PDUJLQ RI HUURU WDNHQ DV

( )

,OOLWHUDWH

7RWDO

0DULWDO 6WDWXV LQJOH

0DUULHG

'LYRUFHG

:LGRZHG

RI WKH FOLHQWV VDLG )3 VHUYLFHV SURYLGHUV DUH FRPSHWHQW WR WKHLU O  
7DEOH

&OLQW 5HVSQRVH 1XPEHU3HUFHQW

2SHQLQJ KRXU RI )3 VHUYLFH XQLW LV FRQYHQLHQW"

<HV

1R

1R DQVZHU

3URYLGLQJ LQIRUPDWLRQ RQ ORQJ WHUP )3 PHWKRGV

<HV

1R

)HHOLQJ RI &OLHQW DERXW ZDLWLQJ WLPH

1R ZDLW

+DOI KRXU

+DOI KRXU WR RQH KRXU

2QH KRXU

1HZ VWHULOH QHHGOH DQG V\ULQJH XVHG	
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'HSR YLDO VKDNHQ EHIRUH GUDZLQJ	
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,QMHFWRQ VLWH PDVVDJH

&OLHQW VHW WR LQMHFWRQ URRP

3URYLGHU WROG DERXW DQ\ RI WKH IROORZLQJ

+RZ WR XVH PHWKRQ

\$GYDQWDJH

'LVDGYDQWDJH

6LGH HIIHFW

3RVVLELOLW\ RI VZLWFKLQJ

:KHUH WR JR IRU UHVXSSO\

2WKHU KHDOWK LVVXH GLVFXVVHG

HGXFDWLRQDO VWDWXV RI FOLHQWV PLJKW PDNH WKHP XQDEOH WR DVN TXHVWL  
DQG OHVV XQGHUVWDQGHUHQWLRQ DERXW

H GRPLQDQW IDPLO\ SODQQLQJ PHWKRG ZDV LQMHFWDHOH DQG  
WKH VHFRQG IDPLO\ SODQQLQJ PHWKRG ZDV RUDO FRWUDFHSWLYH SLOOV  
H UHVRQ IRU KLJK LQMHWLRQ XVHUV LQ WKLV VWXG\ PLJKW EH  
FOLHQWV SUHHRUHQW IRU LWV ORQJ

5HFRPPHQGDWLRQ

SEDED (WKLRSLDg \$IULFDQ -RXUQDO RI 3U  
0HGLFLQH

:RQML +RVSLWDO KHDOWK SURIHVVLRQDOV FRQWUROV WR 3LPSURYH KHDOWK VIDFVWLRQV  
XWLOL]DWLRQ RI IDPLO\ SODQQLQJ VHUYLFHDP&BXQVHODOLQJ6DQGFDSSSRJLSDWV  
KHDOWK HGXFDWLRQ VKRXOG EH JLYHQ WR RYSDWOLHODWV)DPLOLVSDQQLQJDXQLW  
VKRXOG ZRUN RQ ORQJ MHKRVSRVDOVFRQWUROV  
FRPPXQLFDWH ZLWRY:RHLGDXISDOWK FRQWUDFHSWLYH 3RSXODWLRQ JURZWK \$PHU  
PHWKRG DGHTXDWHO\ 6HUylfH XVHUV KDYH WR EH IDPLOLDU ZLWK ORQJ WHUP  
FRQWUDFHSWLYH OLNH ,8' 1RUSODQW \$RVKHHBOH PHWKRGV \$SSURSRVWVHOD  
WUDLQLQJ VKRXOG EH JLYHQ IRU ODWHUQDO &KLOG +HDOWK 00+ 0LGZLIHU  
QXUVHV DQG KHDOWK SURIHVVLRQDOV LQ FRQOML +RVSLWDO &RQFHBOHG ERG  
DQG 5HJLRQDO +HDOWK %XUHDx PXVW KDYH WHVLPFRQLWRU:DOGLWVDO &DWH  
UHJXODUO\ :RQML +RVSLWDO 0DUFLH SXEDUGW 6RFLDO PKDQJH DQG I  
,QWUD KHDOWK LQWHUQDWLRQDO )DPLO\ DQ  
0LQLVWU\ RI KHDOWK \*XLGHOLQHV RI )3 6HU  
3RSXODWLRQ WRGD\

\$FNQRZOHGJHPHQW

)LUVV RI DOO ZH ZRXOG OLNH WR H[SUHVV RXU GHHSHVW JUDWLWXGH WR \$GG  
SEDED 8QLYHUVLW\ 6HODOH FDPsXV IRU JRLQGLQJ YXSHUWV KDLQFLBI SUHSDULQJ  
UHVHDFK SDSHUORZHWLWRVZRXOB WKDQ 42R&PDPOLFDWLRQ RI DERUWLRQ :+2 \*HQH  
3URI <LJ]DZ .HEHG IRU KLV QHFHVVDU\ JXLGDQFH HOFRXUDJHPHQW  
FRQWUXFWLYH FRPPHQWV DQG VXSSRUW IRU WKLV UHVHDFK SDSHU  
SUHSDUDWLRQ 2XU JUDWLWXGH DOVR JRHV WR :RQML +RVSLWDO PHGLFDQ  
GLUHFWRU DQG GHSDUWPHQW RI 00+ IDPLO\ SODQQLQJ QXUVHV IRU WKHLU  
QHFHVVDU\ JXLGDQFH /DVW EXW QRW OHDVW ZH ZRXOG OLNH WR WKDQN RXU  
VHFUHWDU\ 0UV 7LJLVW 0HWDIHULD

\$XWKRUV &RQWULEXWLRQV

H RQO\ \$XWKRU LV %L]XQHK \$DQR +H GHYHORSHG UHVHDFK & SRSRVDO  
VHDFKQLQJ IRU IXQGLQJ GDWD FROOHFWLRQ FRQWUROOLQJ GDWD FROOHFWR  
VXSHUYLVLQJ FRPSLOQDQGDQDWRK DOLSRQVWLQJ DQG  
GHIHQVH +H KDV DOVR SUHSDUHG UHVHDFK PDQXVFULSW

\$FNQRZOHGJHPHQWV

)LUVV P\ GHHSHVW JUDWLWXGH JRHV WR \$GGLV SEDED 8QLYHUVLW\ 6HODOH  
FDPsXV JRLQGLQJFRUW WR WKLV UHVHDFK :H DUH YHU\ NLQGO\  
JUDWHIXO WR VXSHUYLVRUV GDWD FROOHFWRUV UHVSRRGHQWV DQG DOO RW  
LQGLYLGXDOV WR WKHLU FRQWULEXWLRQV

5HIHUFHV

)RUWQH\ -\$ .LUDJX . 0DWHUQDO PRUELGLW\ DQG PRUWDOLW\ LQ 6XE  
6DKDUDQ \$IULFD )DPLO\ +HDOWK ,QWHUQDWLRQDO :RUNLQJ SDSHUV  
&HQWUDO 6WDWLVLFDQ DXWKRUW\ (WKLRSLD (WKLRSLDQ 'HPRJUDSKLF  
+HDOWK 6XUYH\ LQ 'HSWK DQDO\VLV RQ IDPLO\ SODQQLQJ \$GGLV SEDED SS  
7VHJD\H \*\$ +DMLWR .: .LWLODHW 6% &OLHQW VDWLVIDFWLRQ ZLWK IDPLO\  
SODQQLQJ VHUYLFHV DQG DVVRFLDWHG IDFWRUV DPRQJ IDPLO\ SODQQLQJ XVHUV LQ  
+RVDQD 7RZQ SXEOLF KHDOWK IDFLOLWLHV VRXWK (WKLRSLD )DFLOLW\ EDVHG FURVV  
VHFWRQDO VWXG\ ,QW - 1XUV 0LGZLIHU\  
7DWHNRROGLH 0 2OROR 6 f'HWHUPLQDQWV RI SDWLHQW VDWLVIDFWLRQ  
ZLWK RXWSDWLHQW KHDOWK VHUYLFHV DW SXEOLF DQG SULYDWH KRVSLOWDOV LQ \$GGL