



**STARTUP  
CANADA**

**2017  
CENSUS  
SUMMARY**

This report summarizes the results of the 2017 Startup Canada Census to provide insights on Canada's entrepreneurship community.

H56@9`C: `7CBH9BHG`

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9L97I H=J 9`GI A A 5FM

=BHFC8I 7H=CB

A 9H< C8C@C; M

F 9GDCB 89BH`DF C: =@9

9BH9F DF =G9`DF C: =@9

D5FH%: =B5B7=5@A 5B5; 9A 9BH`5B8`F =G?

D5FH`&.`8=; =H5@`58CDH=CB`5A CB; GH`9BHF 9DF 9B9I FG

D5FH`. .; FCK =B; / ; C=B; ; @C65@

D5FH`(.`GH5H9`C: `GI DDCF H: CF`9BHF 9DF 9B9I FG`=B`75B585

D5FH).`F 97CA A 9B85H=CBG`HC`GI DDCF H`9BHF 9DF 9B9I F =5@GI 779GG

7CB7@ G=CB

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## 9L 97I H=J 9'GI A A 5F M'

7UbUXU]g'U'bh]cb'cZYbhfYdfYbYi fg'k \c'Xf]j Y'Wt'bc a ]W[ fck h' UbX' 'eV'WYU]cb'"5'Z' `gca' Y' i bXYfg'UbX]b[ 'cZ' h' Y' g'U' h' 'cZYbhfYdfYbYi fg' \d' UbX' YbhfYdfYbYi fg' \d' gi ddcfh]g'fYei ]fYX' h' c' gi ddcfh' h' Y' gi W'W'gg'UbX' g'W'U'V]' ]micZ'g'U'f'hi dg'UbX' ga' U' `Vi' g]b'Ygg'Yg'U'W'c'gg'7UbUXU"

5'bh]cbU' `W'bg' g'X]g'f]Vi h'YX' h'c' G'U'f'hi d'7UbUXU]g' b'Y'k' c'f\_ 'cZ' % \$ \$ \$ \$ YbhfYdfYbYi fg'UbX' YbhfYdf]g'Y]b'Zi' Yb'W'f'g'Y'g'U'V]'g' \Y'g'V'U'g'Y' ]b'Y'X'U'U' h'c' a' Y'U'g' f'Y' h' ]g' "H' \Y'Z'c' `ck ]b[ '\_Y'm'g'f'U' h'Y' [ ]W ]bg] [ \h'g'Z'f'c' a' 'h' ]g'W'bg' g'k ] `V'Y' `Y'j' Y'f'U' [YX' V'm'G'U'f'hi d'7UbUXU]z' a' Y'a' V'Y'f'g'c'Z' h' Y' D'f' ]j' U' h'Y' G'W'V'c'f' 5X'j ]g'c'f'm'7'c' i' b'W'z'V'f'c'U'X'Y'f' ]b'X' i' g'f'm'd'U'f' h' b'Y'f'g'z' [ c'j' Y'f' b' a' Y' b' h' z' U' b' X' 'U' W' X' Y' a' ]U' h'c' ]a' d'f'c'j' Y' gi ddcfh' f'Y'g'c' i' f'W'g' h'c' ]b'W'Y'U'g'Y' YbhfYdfYbYi f]U' `gi' W'W'gg'"

5'W'W'gg' h'c' `Z' b'X]b[ 'W'c' b' h]bi' Y'g' h'c' V'Y'U' h'c' d' V'U'f'f' ]Y'f' Z'c'f' YbhfYdfYbYi fg'z' d'U'f' h]W' `U'f' `m' Z'c'f' j' ]g]V' `Y' a' ]b'c'f' ]h]Y'g'UbX' h' c'g'Y' f'Y'g]X]b[ 'c' i' h'g]X'Y'c'Z' `U'f' [ Y' W' h]Y'g'"

- Cj'Y'f'U' `z'c'b`m%'d'Y'f' W'b'h'c'Z'f'Y'g'd'c'b'X'Y'b'h'g'U'm'z' b'X]b[ ' ]g]j' Y'f' m'U'W'W'gg]V' `Y' h'c' h' Y'f' W'c' a' d'U' b'm'"
- : ]Z'm'g'Y'j' Y'b' d'Y'f' W'b'h'V'c'bg]X'Y'f' Z' b'X]b[ ' h'c' V'Y'g'c' a' Y'k' \U' h'U'W'W'gg]V' `Y'z'U' b'X' " & d'Y'f' W'b'h' V'c'bg]X'Y'f' ]h'c' b'c'h'V'Y' U'W'W'gg]V' `Y' U' h'U' `'"
- F'Y'g'd'c'b'X'Y'b'h'g'k' \c' ]X'Y'b'h]Z'm'U'g'j' ]g]V' `Y' a' ]b'c'f' ]h]Y'g' d'Y'f'W]j' Y'Z' ]b'U' b'V]b[ ' h'c' V'Y' a' c'f'Y'c'Z'U' b' c'V'g' h'U'W'Y' h'U' b' h' c'g'Y'k' \c' U'f'Y' b'c'h'"
- C'Z' h'Y'f'Y'g'd'c'b'X'Y'b'h'g'k' \c' ]b'X]W' h'Y'X' Z' ]b'X]b[ ' Z' ]b'U' b'V]b[ ' U'g'U' a' U'c'f' c'V'g' h'U'W'Y' h'c' [ f'c'k' h'z' c'j' Y'f' , \$' d'Y'f' W'b' h'f'Y'g]X'Y'c' i' h'g]X'Y'c'Z' h'c'f'c' b' h'c'"
- G'U'f'hi' d'7UbUXU]z' ]b'X' i' g'f'm'U' b'X' [ c'j' Y'f' b' a' Y' b' h' d'U'f' h' b'Y'f'g' \U'j' Y'U'g] [ b'Z' ]W' b' h'f'c' `Y' h'c' d' `U' m' h'c' f'Y' a' c'j' Y'X'Y' a' c' [ f'U' d' \ ]W'U' b'X' [ Y'c' [ f'U' d' \ ]W'W'U'f'f' ]Y'f'g' h'c' Z' b'X]b[ 'U'W'W'gg]V' ]h'm'"

9'bh'f'Y' d'f'Y' b'Y' i' fg'U'f'Y' Y'U'f' `m'U'X'c'd'h'Y'f'g'c'Z' b'Y'k' `X] [ ]H'U' h'Y'W' b'c' `c' [ ]Y'g'z'V' i' h'U'f'Y' g'f' i' [ [ ` ]b[ ` h'c' \_Y'Y' d' i' d' k' ]h' h' Y' f'U' h'Y'c'Z' h'Y'W' b'c' `c' [ ]W'W' `W'U' b' [ Y'U' b'X' h' i' f' b'c'j' Y'f'"

- Cj'Y'f' - ' `d'Y'f' W'b'h'c'Z'f'Y'g'd'c'b'X'Y'b'h'g' \U'j' Y'U' b'c' b' ]b'Y' d'f'Y'g'Y' b'W'"
- G'Y'j' Y'b'm'd'Y'f' W'b'h'V'c'bg]X'Y'f' h'Y' a' g'Y'j' Y'g' h'c' U'X'c'd'h' b'Y'k' h'W'W' b'c' `c' [ ]Y'g'V'Y'Z'c'f'Y' h'Y' a' U'c'f' ]m'ic'Z'g'c'V'Y' h'z'k' ]h' h'c' ( `d'Y'f' W'b'h'V'c'bg]X'Y'f' ]b[ ' h'Y' a' g'Y'j' Y'g' ]b' b'c'j' U' h'c' f'g' ]b' h'Y' g'd'U'W'"

- : cfm!h fYy`dYf`Wbh]XYbh]Z]YX`Vt`ghg`fY`UH`YX`hc`hfU]b]b[ ži`dXU]b[ `UbX`  
a U]bhU]b]b[ `X][ ]HU`hWwbc`c[ mUgU`a U]b`VUff]Yf`hc`hWwbc`c[ mUXcdh]cb`"
- K`ca`Yb`UFY`&\$`dYf`Wbh`Ygg` ]\_`Y`mhc`Yj`YfU[ YX][ ]HU`hWwbc`c[ ]Ygk`Yb`  
cdYfU]b[ `h\Y]f`Vi`g]bYgg`h`Ub`a`Yb`"
- Cddcfh`b]h]Yg`hc`]bWYUgY`X][ ]HU`UXcdh]cb`Ua`cb[ ghYbhYdfYbYi`fg]bW`XYj`]f`hi`U`  
hfU]b]b[ `Uj`U]`UW`Y`hc`Yj`YfmYbhYdfYbYi`f`k`Yb`UbX`k`YfY`h`YmbYX`]h/]bWbh]j`Yg`  
UbX`[ f`Ubhg`hc`i`d!g\_]`hYUa`g`UbX`Y`fY`bYk`Ya`d`cmYgk`]h`]b!`XYa`UbX`X][ ]HU`  
g\_]`g`UbX`žgi`ddcfhZcf`dfc[ f`Ua`a`]b[ WYUH`YX`Vm`UbX`Zcf`k`ca`Yb`"

9bhYdfYbYi`fg`Uj`Y`Ua`V]h]cbg`hc`gW`Y`UbX`fYUW`bYk`]bhYfbU]cbU`a`Uf`\_`Yhg`"

- : cfm`dYf`WbhcZ`fYgdc`bXYbhg`Yi`dW`h`h`Y]f`m`Uf`mUj`YfU[ Y`gU`Yg`hc`[ f`ck`V`ma`c`fY`  
h`Ub`&\$`dYf`Wbh`Ubbi`U`m`"
- : cfm!h fYy`dYf`Wbh`UFY`gY` ]b[ [ `cVU`nž`UbX`&-`dYf`WbhcZ`h`cgY`k`c`UFY`bch`  
gY` ]b[ `hc`[ `cVU`a`Uf`\_`Yhg`d`Ub`hc`]b`h`Y`b`YUf`Z`hi`fY`"
- H\Y`I`b]hYX`GHU]g`f`\$`dYf`Wbh`ž`9i`fcdY`f` )`dYf`Wbh`ž`UbX`5i`gfU`]U`f`i`dYf`Wbh`UFY`  
]ghYX`Ua`cb[ `hc`d`[ `cVU`a`Uf`\_`Yhg`Zcf`]bhYfbU]cbU`Yi`d`Ub]cb`"
- GHU`fi`d`7`Ub`UXU`ž`]bXi`gf`nž`UbX`[ c]`Yf`ba`Yb`h`W`b`gi`ddcfh` ] [ \!`[ f`ck`h`UbX`  
]bhYfbU]cbU`Ua`V]h]cbg`Vm`k`cf\_]b[ `hc`[ Y`h`Yf`hc`dfc]`]XY`YbhYdfYbYi`fg`k`]h`UWw`gg`hc`  
hfU]b]b[ `ž`Zi`bX]b[ `ž`UbX`Vt`bb`YW]cbg`hc`[ f`ck`]b`7`Ub`UXU`UbX`[ `cVU`m`"

B`Y`k`cf`\_`gž`Vt`a`a`i`b]h]Yg`UbX`]bW`VU`hc`fg`#`UWw`Yf`U`hc`fg`UfY`dYf`W]j`YX`hc`dfc]`]XY`  
h`Y`a`c`g`h`gi`ddcfh`hc`ghU`f`h`i`d`UbX`ga`U`Vi`g]bYggYg`"

- -) `dYf`WbhcZ`fYgdc`bXYbhg`k`ci`X`fY`Vt`a`a`YbX`GHU`f`h`i`d`7`Ub`UXU`hc`h`h`Y]f`Z`ck`  
YbhYdfYbYi`fg`hc`UWw`gg`gi`ddcfh`UbX`fYgci`fWg`"
- ;`c]`Yf`ba`Yb`h`ž`fY[ UfX`Ygg`cZ`Yj`Y`ž`Ug`k`Y`Ugi`b]j`Yf`g]h]Yg`UbX`Vt`Y[ Yg`UfY`  
dYfW]j`YX`hc`dfc]`]XY`]h`Y`hc`bc`g`ddcfh`"
- 5`b`W`cf`Vt`a`d`Ub]Yg`UbX`]bXi`gh`f`m`Uggc`V]U]cbg`Uj`Y`h`Y`ck`Yg`h`gi`ddcfh`fU]b[`  
Ua`cb[ gh`f`Ygdc`bXYbhg`"
- :`i`bX]b[ `f`f`dYf`Wbh`ž`gU`Yg`f` )`dYf`Wbh`ž`UbX`Yi`dc`gi`fY`f`%`dYf`Wbh`UFY`h`Y`  
a`c`g`h`g][`b]Z]Wbh`gi`ddcfh`g`f`Yei`]fYX`VmYbhYdfYbYi`fg`hc`Y`d`h`Ya`[ f`ck`h`h`Y]f`  
Vt`a`d`Ub]Yg`"

- =bXi gfnž[ cj Yfba YbłŹUbX'UMUXYa ]W]bg]hi h]cbgUfY'k Y`'dcg]h]cbYX'hc'dUfHbYf'k ]h' GHUfi d'7UbUXU'UbX`Yj YfU[Y]hg'Yi hYbg]j Y'bYk cf\_'hc'fU]gy [ fYUHf' Uk UfYbYgg'cZ YbHfYdfYbYi f'dfc[fUa g'UbX'fYgci fW'g"

H\YgY'ghUH[ ]W]bg][ \hg'dfcj ]XY'cddcfhi b]h]Yg'Zcf'GHUfi d'7UbUXUž'a Ya VYfg'cZh\Y'GHUfi d' 7UbUXU'Df]j UH'GYM'cf'@YUXYfg\]d'5Xj ]gcfm'7ci bW]žVfcUXYf ]bXi gfmUfHbYfgž[ cj Yfba Ybh UbX'UMUXYa ]U'hc'ja d'fcj Y]hg'gi ddcfhiUbX'fYgci fW'g'Zcf'YbHfYdfYbYi fgžUbX'hc'a YUgi fY'h\Y' ghUH'cZYbHfYdfYbYi fg\]d']b'7UbUXU'cj Yf'h]a Y'i g]b[ 'h\]gVUgY' ]bY'XUH"

## =B HF C 8 I 7 H=C B "

5gU`YUXYf ]b'h\Y'U[ Y'cZX][ ]H'X]gfi dh]cbžUfH]Z]VU' ]bhY`][ YbW'UbX'a UWX]bY`YUfb]b[ ž 7UbUXU'\Ug'UVf][ \hž hi fY'UgU[ `cVU' ]bbcj Uh]cb'UbX'YbHfYdfYbYi fg\]d`YUXYf"5`fYUXmi \ca Y'hc'&" 'a ]`]cb'YbHfYdfYbYi fg'UbX'%%a ]`]cb'ga U`Vi g]bYggYg'hUhUW'ci bhZcf'+, 'dYf' WbhcZdf]j UH'gYM'cf'`cV'WYUH]cbž' \$'dYf'WbhcZYI dcfhg'UbX'&+'dYf'WbhcZ; 8Dž7UbUXU]g' YbHfYdfYbYi fg\]d'Vž'a a i b]m]g'dc]gYX'hc'[ fck "5gk cf\_d'UW'X]gfi dh]cbgW'li gYX'Vm ]bbcj Uh]cb'X]gd'UW'gk cf\_Yfg'UW'cgg'gYM'cf'gž'h\Y'fUH'cZYbHfYdfYbYi fg\]d'k ]`]bWYUgY'Vm bYW'gg]m'i

H\]g]gk \m'YbHfYdfYbYi fgž'gi ddcfhcf[ Ub]nUh]cbgž[ cj Yfba YbhUbX']bXi gfm'a i ghik cf\_' hc[ Yh\Yf'hc'ž Y'YbHfYdfYbYi f]U'Ua V]h]cb/Ybgj fY[ cj Yfba Ybhdc`]WYg'UfY'XYg][ bYX'hc'gdi f' ghUfi d'UbX'ga U`Vi g]bYgg[ fck h\dfcj ]XY'UW'W'gg'hc'gi ddcfhfYgci fW'g'Zcf'Yj Yfm YbHfYdfYbYi f!'bc'a UH'f'h\Y]f'g]nž'gYM'cf'cf`cW]h]cb/UbXž'W'Ua d]cb'7UbUX]Ub' YbHfYdfYbYi fg'hc'[ `cVU'a Uf\_Yhg""Hc[ Yh\Yfž'h\Y'7UbUX]Ub'YVž'gng'hYa 'Wb'Vi ]'X'U'h'f]j ]b[ ]bW'g]j Y'YVž'bca m'h\UhfYUdg'h\Y'dcg]h]j Y'VYbYZ]hg'cZX]gfi dh]cb'UbX'Ya dck Yfg'7UbUX]Ubg' h'fci [ \ YbHfYdfYbYi fg\]d""

GHUfi d'7UbUXUž'Ug'h\Y'bUh]cbU'fU`m]b[ 'Vž'a a i b]m]UbX'j c]W'Zcf'7UbUXU]g'&" 'a ]`]cb' YbHfYdfYbYi fgž'dUfHbYfYX'k ]h' h\Y'GHUfi d'7UbUXU'Di V']WGYM'cf'@YUXYfg\]d'5Xj ]gcfm' 7ca a ]H'Y'hc'Vž'bXi V'U'gUa d'Y'Wbgi g'cZ]hg'bYk cf\_'cZa cfY'h\Ub'%'\$ž\$ž\$ž'YbHfYdfYbYi fg' UbX'YbHfYdf]gY' ]bZi YbW'fg" H\Y'fYgi `hg'cZ'h\]g'gi fj Ymž'gi a a Uf]nYX' ]b'h\]g'fYdcfž'dfcj ]XYg' VUgY' ]bY'XUH'Zcf'Ub'Yb\Ub'WX'i bXYfg'UbX]b[ 'cZ'h\Y'GHUfi d'7UbUXU'bYk cf\_'/h\Y'bYX'g'UbX' k Ubhg'cZYbHfYdfYbYi fg/h\Y'fc'Y'cZGHUfi d'7UbUXU' ]b'h\Y'Vž'gng'hYa /UbXž'dYfgd'YV]j Yg'cb' h\Y'ghUH'cZ'h\Y'Ybj ]fcb'a YbhUbX'W'h'i fY'Zcf'YbHfYdfYbYi fg\]d']b'7UbUXU'"H\]g'XUH]g'

jbhYbXYX'Zcf'h\Y'i g'cZGHUfhi d'7UbUXU'UbX']hg]bXi gfmz[cj Yfba Ybh'UbX'ch\Yf'dUfYbYfg'hc' V\bf]Vi h'Y'hc'h\Y'[fck'h'cZU'h.f]j ]b[ 'YbfYdfYbYi fg\]d'VW'gmgYa "'

## A 9H< C8C@C; M'

H\]g'g'g' Xmk Ug'V\cbXi V\YX'VYrk YYb'>Ubi Ufm'%'&\$%'-UbX'>Ubi Ufm' %&\$%'-h'fci [\ 'U'bh]cbU' cb]bY'gi fj Ym'H\]g'g' fj YmYb[U[ YX'\*' ' 'fYgdcXbYbYg'UbX'\Ug'U'V\cbZ]XbW' ]bhYfj U'cZ-) 'dYf' Wbhk ]h' U'a Uf[ ]b'cZYffcf'cZ%- \*"'H\]g'fYdcfhgi a a Uf]nYg'h\Y'fYgi 'hg'cZ'h\Y'gi fj Ym''

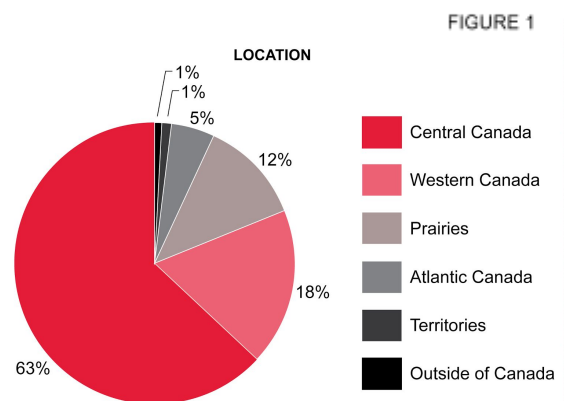
## F 9GDCB89BH'DF C: =@9'

GHUfhi d'7UbUXU'gi ddcfhg'UbX']g'h\Y'j c]W'cZY] YfmYbfYdfYbYi f'zFY[ UfX'Ygg'cZg]nY'z'g'V\cf'z'cf' XYa c[fUd\]Vg]'5g'g' V'z'fYgdcXbYbYg'cZ'h\]g'g' fj YmfYdfYgYb'h\Y'X]j Yfg]hmcZ'7UbUXU'g' YbfYdfYbYi fg\]d'V\ca a i b]m'

5; 9'p'H\]f'm'b]bY'dYf'Wbh'cZ'fYgdcXbYbYg'UfY'VYrk YYb'h\Y'U[Yg'cZ%' 'UbX' ) z' %dYf'Wbh'UfY' VYrk YYb'h\Y'U[Yg'cZ' \* 'UbX' ) ( /UbX'z'Z]j Y'dYf'Wbh'UfY'c]j Yf'h\Y'U[Y'cZ\*"' : ]Zm'Zci f'dYf'Wbh'cZ' gi fj YmfYgdcXbYbYg'g'Z'WUgg]Zm'Ug'a U'Yz'() 'dYf'Wbh'Ug'Z'Ya U'Yz'UbX'cbY'dYf'Wbh'g'Z'WUgg]Zm' Ug'ch\Yf''

A =B C F =H=9G'p'H\]f'm'Z]j Y'dYf'Wbh'cZ'fYgdcXbYbYg'k YfY'Vcfb'ci hg]XY'cZ'7UbUXU'z'UbX'&&'dYf' Wbh]XYbh]Zm'Ug'VY]b[ 'Uj ]g]V'Ya ]bcf]m'Hk c'dYf'Wbh'UfY' =bX][ Ybci g'YbfYdfYbYi fg'

@C 75H=C B'p'H\Y'gi fj Ymg'Uk 'fYgdcXbYbYg' Z'ca '%&Dfcj ]bWg'UbX'HYff]hcf]Yg'5W'cgg' 7UbUXU'z'h\Y'Uf[ Ygh'bi a VYf'cZ'fYgdcXbYbYg' fYg]XY]b'7YbfU'7UbUXU'z'UW'z'i bh]b[ 'Zcf'\*' ' 'dYf'Wbh'cZ'U'`'gi fj YmYX''5b'UXX]h]cbU'%' 'dYf' Wbh'cZ'fYgdcXbYbYg'fYg]XY]b'h\Y'DfU]f]Y' Dfcj ]bWg/'%&'dYf'Wbh'fYg]XY]b'K' Ygh'Yfb' 7UbUXU'z'UbX'%'dYf'Wbh'fYg]XY]b'h\Y'5h'Ub]h]W F Y[ ]cb'UbX'HYff]hcf]Yg'fYgd'W'W]j Y'm'f'GYY' : ][i fY%'



@5B; I 5; 9'p'9][\m'gYj Yb'dYf'WbhicZfYgdcXbYb'g'dYU\_d'f]a Uf]'m9b[']g\ 'Uh\ca Y/gYj Yb'dYf'WbhicZfYU\_: fYbW/UbX'g]l 'dYf'WbhicZfYU\_'U'Ub[i U[Y'ch\Yf'h'Ub: fYbW'cf'9b[']g\ 'Uh\ca Y''

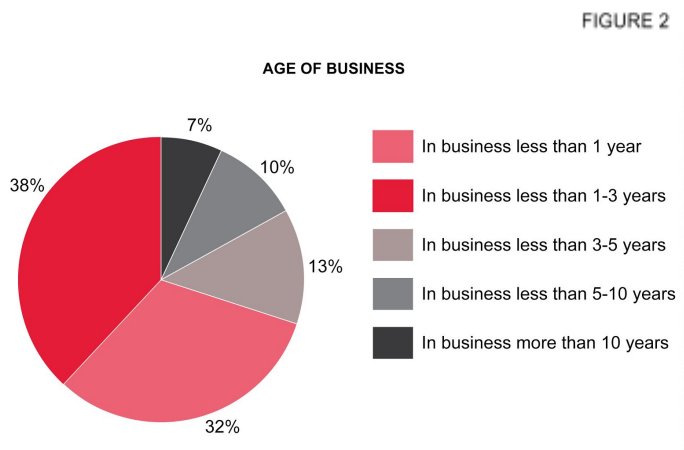
F C@9'K =< => H< 9'9B HF 9DF 9B 9I F G< => 97C GMGH9A 'p'GYj Yb'm'Z]j Y'dYf'WbhicZfYgdcXbYb'g'UfY'Yb'fYdfYbYi fg/%'dYf'WbhicZfYgdcXbYb'g'Ug]b] Yg'cf'g'z'g'Yfj ]W'dfcj ]XYfg'UbX'g] ddcf'hc'f[ Ub]nUh]cbg/UbX'z%'\$dYf'WbhicZfYgdcXbYb'g]bX]W'hYX h\YmUfY'h]b\_]b[ 'cZ'g'Uf'h]b[ 'U'bYk 'Vi g]bYgg''

## 9B H9F DF =G9'DF C: =@9

F YgdcXbYb'g'cZ'h]g'g] f] Ym'fYdfYgYb'h'U'k ]XY'gd'W'f'i a 'cZ]bXi g'h]Yg'Z'f'ca 'W'eb'g] 'h]b[ 'UbX'dfcZ'Ygg]cbU'g'Yfj ]W'g'h'c]b'Z'c'f'a U'h]cbU' h'W'W'z'f'Y'h]j 'z'Y'b'h'f'h]j]b'a Yb'h'z'g'Yfj ]W'g'UbX'U[ f]W'h'f'Y''

HMD9'C: '6I G=B 9GG'p'H\]f'h'Yb'dYf'WbhicZcZfYgdcXbYb'g'Z'c] bXYX'UbX'cdYf'U'h'Z'c]d'f'cZ]h'g'c'V]U'Yb'h'f'df]g'Yg/h'f]m'Y][\h'dYf'Wbh'Z'c] bXYX'UbX'f'i b'Z'c]d'f'cZ]h'Vi g]bYgg'Yg'h'f'Y'Y'dYf'Wbh'Z'c] bXYX'UbX'f'i b'bc'b!d'f'cZ]h'g'c'V]U'Yb'h'f'df]g'Yg'UbX'h'k'c'dYf'Wbh'Z'c] bXYX'UbX'f'i b'bc'b!d'f'cZ]h'Yb'h'f'df]g'Yg''

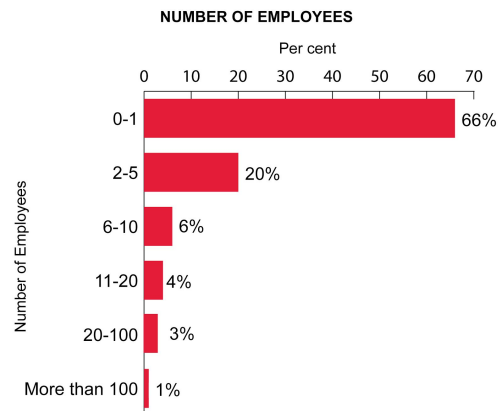
5; 9/ @= 97M7@9'p'H\]f'm'h'k'c'dYf'WbhicZ'W'e'a dUb]Yg\Uj Y'V'Y'Y'b]b'cdYf'U'h]cb'Z'c]f''Ygg'h'Ub'cb'Y'm'U'f/' , 'dYf'WbhicZ'W'e'a dUb]Yg\Uj Y'V'Y'Y'b]b'Vi g]bYgg'Z'c]f'%' 'm'Y'U'f'g'/%'dYf'WbhicZ'Vi g]bYgg\Uj Y'V'Y'Y'b]b'Vi g]bYgg'Z'c]f' '!) 'm'Y'U'f'g'/%\$'dYf'WbhicZ'Vi g]bYgg'Yg\Uj Y'V'Y'Y'b]b'Vi g]bYgg'Z'c]f')!%'m'Y'U'f'g'UbX'z'g'Yj Yb'dYf'Wbh\Uj Y'V'Y'Y'b]b'Vi g]bYgg'Z'c]f'a cf'Y'h'Ub'%'m'Y'U'f'g''f'G'Y'Y: ][i f'Y'&E'



: cf'm'g]l 'dYf'WbhicZfYgdcXbYb'g'f'i b'g'U'f'h' dg'k ]h' b'Y[ '][ ]V'Y'f'Yj Ybi Yg'UbX'U'f'Y'g'h]'f'Y'Z]b]b[ 'h'Y]f'W'eb'W'd'h]'H'k Yb'm'Z]j Y'dYf'Wbh'f'i b'[ f'ck]b[ 'W'e'a dUb]Yg'k ]h' U'd'c'g]h]j Y'f'Yj Ybi Y'z'Vi h'U'f'Y'b'c'h'm'h'd'f'cZ]h'U'V'Y''G]l h'Y'b'dYf'Wbh'f'i b'a U'h' f'Y'W'e'a dUb]Yg'k ]h' d'c'g]h]j Y'f'Yj Ybi Y'z'[ f'ck h'UbX'd'c'g]h]j Y'd'f'cZ]h'U'V']m'i'B]b'Y'dYf'Wbh'U'f'Y'b'c'h]b'W'e'f'd'c'f'U'h'X'UbX'U'f'Y'g'h]'k'cf\_]b[ 'h'c'Z'c'f'a i 'U'h'h'Y]f'W'eb'W'd'h': c'i f'dYf'Wbh'U'f'Y'cdYf'U'h]b[ 'X'W'W]b]b[ 'W'e'a dUb]Yg'UbX'g'f'i [ [ ]b[ 'k]h' [ f'ck h''

FIGURE 3

BI A 69F C: 9A D@CM99G p9I W X]b[  
 ck bYffgl UbX WbfUMk cf\_Yfgz\*\* dYf WbhcZ  
 fYgdc bXYbHg\Uj Y'nYfc hc'cbY Ya d`cmYY/&\$ dYf`  
 Wbh\Uj Y'rk c'hc Z]j Y Ya d`cmYYg/g]l dYf Wbh\Uj Y`  
 g]l hc %\$ Ya d`cmYYg/Zci f dYf Wbh\Uj Y %&rc &\$`  
 Ya d`cmYYg/h fYY dYf Wbh\Uj Y &%rc %\$\$`  
 Ya d`cmYYg/UbX'cbY dYf Wbh\Uj Y'a cFY hUb %\$\$`  
 Ya d`cmYYg" fGY: ][i fY" E`



5BBI 5@F 9J 9BI 9=B &\$% p: cfmdYf Wbh  
 cZfYgdc bXYbHg\UX'bc fYj Ybi Y]b &\$% "H\]f mY][\hdYf Wbh\Uj Y'Ub'Ubbi U'fYW ff]b[  
 fYj Ybi Y'cZ`Ygg hUb ~ %\$Z\$\$\$/% dYf Wbh[ YbYfUH'fYj Ybi YgVYrk YYb ~ %\$Z\$\$\$ UbX`  
 ~) \$\$\$Z\$\$\$/h fYY dYf Wbh[ YbYfUH'fYj Ybi YgVYrk YYb ~) \$\$\$Z\$\$\$ UbX` ~ %\$Z\$\$\$Z\$\$\$/Z] Y dYf`  
 Wbh[ YbYfUH'VYrk YYb ~ %A` UbX` ~ %A /UbX'hc c dYf Wbh\Uj Y'fYj Ybi YgVYrk YYb ~ %A` UbX`  
 ~ %\$A` "

8=J 9F G=HMC: F 9DF 9G9B H5H=C B p9][\hmgyj Yb dYf WbhcZfYgdc bXYbHg\Uj Y'U'hUa  
 UbX#cf'6cUfX'cZ8]fW'cfghUh]bW XYgU'a ]b]a i a 'cZ&\$ dYf Wbhk ca Yb"H\]f m'h fYY dYf`  
 Wbh\Uj Y'U'hUa` UbX#cf'6cUfX'cZ8]fW'cfghUh]bW XYgU'a ]b]a i a 'cZ&\$ dYf Wbhj ]g]V`Y`  
 a ]bcf]h]Yg"Gy] Yb dYf Wbh\Uj Y'U'a ]b]a i a 'cZ' \$ dYf Wbh dYf gcbgk ]h'X]gU]`h]Ygk \]Y'1 gh  
 Zci f dYf Wbh\Uj Y'U'a ]b]a i a 'cZ&\$ dYf Wbh=bX][ Ybci g fYdfYgYb hU]cb"

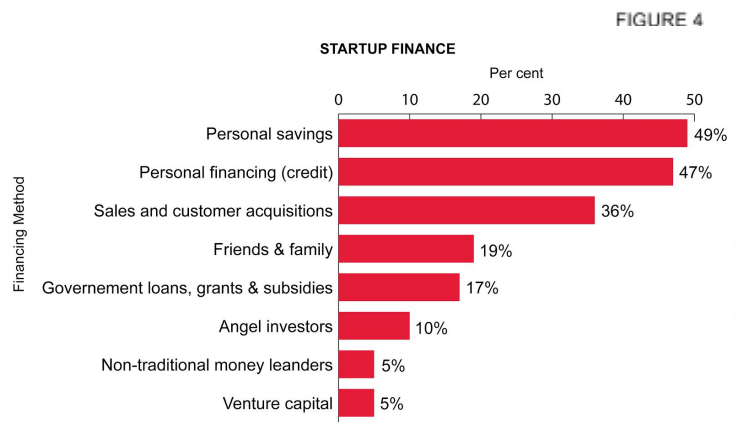


## D5F H%: =B 5B 7=5@'A 5B 5; 9A 9B H'5B 8 F =G? .

9bhfYdfYbYi fgUfY\[\ \ f]g\_ hU\_Yfgk \Yb ]hVta Yg'hc ]bgi f]b[ 'UbX'Z]bUbV]b[ 'h\Y]f'Vi g]bYggYg' =bhYfYg]b[ 'nž'4 gh' , 'dYf'WbhicZYbhfYdfYbYi fg'gi fj YmYX\Uj Y]bgi fUbW''I bXYf'cbY!ei UfhYf' cZhcYg'Y'gi fj YmYX ]bX]W]hYX'h\YmXcbBh\Uj Y]bgi fUbW'Vi hUfY''cc\_]b[ ]bhc ]hžk \]Y'h\Y' fYa U]b]b[ '&- 'dYf'WbhXc'bch\Uj Y]bgi fUbW'UbX'UfY'bch''cc\_]b[ ]bhc ]h''

9B HF 9DF 9B 9I F G =BJ 9GH'D9F GCB 5@'G5J =B; G'HC ; F CK .

K \Yb ]hVta Yg'hc Z]bUbWgžh\Y' a U'cf]hmcZYbhfYdfYbYi fg'f!\$'dYf' Wbhž'fY[ UfX'Ygg'cZU[ Yž]b] Ygh' h\Y]f'dYfgcbU'gUj ]b[ g'hc'Z]bUbW' h\Y'ghUfH i d'cZhcY]f'Vi g]bYgg'' @]bYg'cZWYX]hff' \$'dYf'Wbhž' df]j UhY''cUbg'f&) 'dYf'Wbhž'UbX' gU'Yg'f&%dYf'Wbhž'UfY'Ugc' i gYX'hc' gi ddcfhVi g]bYggYg]b h\Y]f'YUf' mi ghU[ Yg''H\Yg'Y'bi a VYfg'g\Zhg][ \hmiUg'Vi g]bYggYg'gWY'! fY' ]UbW'cb'gUj ]b[ g'UbX'dYfgcbU' Z]bUbV]b[ 'XYW]bYg'hc ) \$'dYf'WbhUbX'gU'Yg' ]bWYUg'Y'hc' \* 'dYf'WbhUg'h\Y'df]a Ufmgi fWg'cZ ž bX]b[ ''



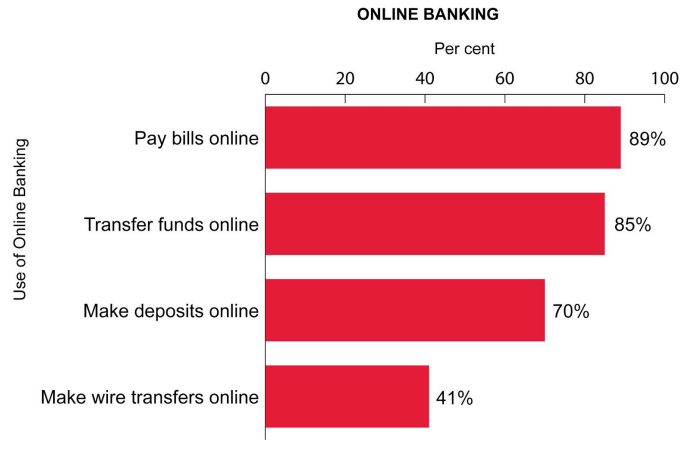
: I B 8 =B; '5 7 7 9 GG =6 =@=HM 5 7 CB 7 9 F B ž D 5 F H =7 I @ 5 F @ M: C F 'A =B C F =H =9 G'

Cj YfU'ž'4 gh% dYf'WbhicZfYgdc bXYb h'g'Umž bX]b[ ]g'ij YfmUWVgg]V'YBhc'h\Y]f'Vta dUbm' : ]žm'gYj Yb'dYf'WbhVtb]g]XYf']h'hc'VY'igca Yk \UhUWVgg]V'YBž'UbX' & dYf'WbhVtb]g]XYf']h'hc'bch VY'UWVgg]V'Y'UhU''F Ygdc bXYb h'g'k \c ]XYbh]Z]YX'Ug'j ]g]V'Y'a ]bcf]h]Yg]XYbh]Z]YX'Z]bUbV]b[ 'hc' VY'a cfY'cZUb'cVghUW'h\Ub'h'cgY'k \c'X]XbBh'Mci b[ Yf'YbhfYdfYbYi fg'Ugc'dYfW]j Y'ž bX]b[ ' hc'VY'a cfY'UWVgg]V'Y'h\Ub'c'XYf'YbhfYdfYbYi fg': i fh\Yfa cfYžcZhcY'fYgdc bXYb h'g'k \c' ]bX]W]hYX'Z]bX]b[ ]Z]bUbV]b[ ]g'U'a U'cf'cVghUW'hc' [ fck h\žcj Yf', \$'dYf'WbhYfYg]XY'ci hg]XY'cZ Hcfcbhc''H\]g]bX]W]hYgXYa c[ fUd\ ]WUbX' [ Yc[ fUd\ ]WUff]Yfg'hc'UWVgg]b[ 'ghUfH d'UbX' gWY'!i d'ž bX]b[ ]b'7UbUXU''

I G9C: : =B5B7=5@A 5B5; 9A 9BH'9L D97H98 'HC ; F CK 'CJ 9F 'H=A 9'

8][[HU`gYfj ]Wg'UFY'i gYX'k ]XY'mVmi  
YbhfYdfYbYi fg'hc'a UbU[ Y'h'Y]f'  
Z]bUbVWU'g"C ZH'Y) ( 'dYf'WbhcZ  
YbhfYdfYbYi fg'k \c'i gY'cb`]bY'  
VUb\_]b[ ž, - 'dYf'Wbhi gY']h'hc'dUm  
V]`g'k \]Y', ) 'dYf'Wbhi gY']h'hc'  
hfUbgZf'Zi bXg"GYj YbhmDYf'Wbhi  
i gY'cb`]bYVUb\_]b[ 'hc'a U\_Y'  
XYdcg]hg": i fh'Yfa cfYž) %dYf'Wbhi  
i gY'UWŁi bh]b[ 'gcZ'k UfYžk \]Y'ŧ gh  
%dYf'Wbhi gY'dYb'UbX'dUdYf'hc'a UbU[ Y'h'Y]f'Z]bUbWg''

FIGURE 5



< i a Ub 'fYgci fWg'UFY'U'gc'Wfi V]U'hc Z]bUbVWU'a UbU[ Ya YbH': ]ZmdYf'WbhcZYbhfYdfYbYi fg'  
i gY'Ub 'UWŁi bh]bhž&&'dYf'Wbh\Uj Y'U'Vcc\_\_YYdYfžUbX'%) 'dYf'Wbh\Uj Y'Ub 'Ya d'cmYY'  
a UbU[ ]b[ 'Z]bUbWg''

5g'VŁa dUb]Yg'gW'Yžh'YmfY'ma cfY'cb 'Z]bUbVWU'a UbU[ Ya YbhgYfj ]Wg"Cj Yf'h'YbYi hg]l '  
a cbh'gž\* - 'dYf'WbhcZfYgdcbXYbhg]bX]VW'YX'h'Ymk ]`i gY'Ub 'UWŁi bh]bh'\* &'dYf'Wbhk ]``  
i gY'UWŁi bh]b[ 'gcZ'k UfYžUbX" ' 'dYf'Wbhk ]``i gY'U'Vcc\_\_YYdYf''

D5F H'&. '8 =, =H5@'58CDH=CB '5A CB; GH'

9B HF 9DF 9B 9I F G'

8][ ]HU`UXcdh]cb`Ua cb[ gh7UbUX]Ub`YbhfYdfYbYi fg`Ug`VYYb`XcW`a`YbhYX`]b`XYHU]`VmGHUfhi`d`  
7UbUXU`'5b!XYdH`UbU`mg]g`cZ`h`Y`Z]bX]b[ g`VY`ck`WUb`VY`Zci`bX`]b`[5Xj UbVb\] '8\]\[ \]HU`](#)  
[5Xcdh\]cb`5a`cb\[ ghGa`U`'6i`g\]bYgg\]g\]b`7UbUXU`](#)U`fYdcfhi`g`a`a`Uf]n]b[ `YbhfYdfYbYi`f`hfYbXg`  
]b`X][ ]HU`UXcdh]cb`"

9B HF 9DF 9B 9I F G'5F 9'95F @M58CDH9F G'C: 'H97 < B C @C; M'

9bhfYdfYbYi fg]b`7UbUXU`UFY`YUf`mUXcdhYfg`cZbYk`X][ ]HU`hVW`bc`c[ ]Yg`z`Vi`hUFY`gfi`[ [ ]b[ `hc`  
\_YYd`i`d`k`]h`h`Y`fUH`cZ`W`Ub[ `Y`Ub`X`hi`fbcj`Yf`]b`h`g`hVW`bc`c[ n`i`Gy]`Yb`md`Yf`W`b`hc`Z`h`cg`Y`  
g`fj`Ym`YX`V`b`g]XYf`h`Ya`g`Y`j`Yg`hc`UXcdh`b`Yk`hVW`bc`c[ ]Yg`VY`Zcf`Y`h`Y`a`U`cf]h`mc`Z`gc`W`Y`m`z`k`]h`  
&( `d`Yf`W`b`h`V`b`g]XYf]b[ `h`Ya`g`Y`j`Yg]b`bcj`U`hc`f`g]b`h`Y`gd`U`W`"C`j`Yf`-`' `d`Yf`W`b`hc`Z`h`cg`Y`  
g`fj`Ym`YX`\\`j`Y`Ub`'cb`]b`Y`df`Y`g`Y`b`W`z`Ub`X`\*`-`d`Yf`W`b`h`V`b`g]XYf`h`Y`UXcdh]cb`c`Z`b`Yk`X][ ]HU`  
hVW`bc`c[ ]Yg`hc`VY`Yi`hf`Ya`Y`m]a`dcf`h`Ub`h`c`h`Y`g]i`W`W`gg`c`Z`h`Y]f`V`ta`d`U`b`m`<`ck`Yj`Yf`z`XY`gd]h`Y`  
VY]b[ `dfc`Z]H`U`V`Y]b`h`Y`cb[!`h`Y`fa`z`Zcf`ga`U`Vi`g]b`Ygg`ick`b`Y`fg`h`Y`f`Y`i`f`b`'cb`]b`j`Y`g`ra`Y`b`hc`Z`  
X][ ]HU`UXcdh]cb`]g`b]a`a`YX]UH`":`cf`V`ta`d`U`b]Y`g`k`\\`Y`f`Y]b`h]a`Y`z`f`Y`g`ci`f`W`g`Ub`X`Z]b`Ub`W`g`U`f`Y`  
df`Y`m]ci`g`V`ta`a`c`X]h]Y`g`z`h]g]d`f`Y`g`Y`b`h`g]g`c`f`h`Y`f!`h`Y`fa`z`X`U`h`c`!`X`U`m`W`U`Y`b[ `Y`g`"

H=A 9z7CGH'HC ? 99D'I D'K =H< 'H97 < '7 < 5B; 9'5A CB; 'HCD'65F F =9F G

8][ ]HU`cbVcUfX]b[ z`

]a`d`Ya`Yb`h`U]cb`z`

a`U]b`h`b`Ub`W`z`Ub`X`Y`Z`Y`W`j`Y`

i`h]`n`U]cb`c`Z`b`Yk`X][ ]HU`

hVW`bc`c[ ]Yg`f`Yei`]f`Yg`

g][ b]Z]W`b`hi`d`Z`c`b`h]b]j`Y`g`ra`Y`b`h`

Z`c`f`ga`U`Vi`g]b`Ygg`ick`b`Y`fg`"

:`cf`m]h`f`Y`d`Yf`W`b`hc`Z`G`6`C`g`

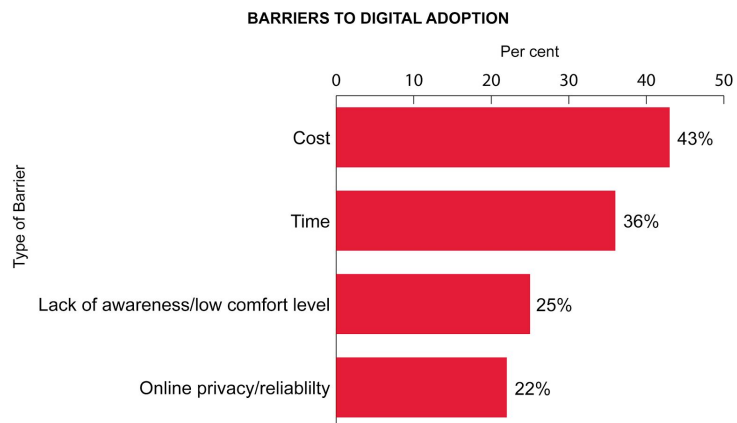
]X`Y`b`h]Z]Y`X`V`g`g`f`Y`U`H`Y`h`c`

hf`U]b]b[ z`i`d`X`U]b[ `Ub`X`

a`U]b`h]b]b[ `X][ ]HU`hVW`bc`c[ m]U`g`U`a`U]b`V`U`f]Y`f`hc`hVW`bc`c[ m]U`X`cd`h]cb`z`k`]h`h`Y`U`a`ci`b`hc`Z`

h]a`Y`f`Yei`]f`Y`X`hc`UXcdh`b`Yk`hVW`bc`c[ ]Yg`W`cg`VY`\\`b`X`U`h`\*`d`Yf`W`b`h`H`k`Y`b`m]Z]j`Y`d`Yf`W`b`h`

FIGURE 6



VhYX`UW`cZUk UfYbYggz`ck`Vta Zcfh`Yj`Y`UbX`\`[\`Vta d`YI`]ImUg`U'a`U]b`VUff]Yf`k`]h`&&`dYf`  
WbhYf[UfX]b[ `cb`]bY`df]j`UW`hUbX`fY`]UV`]ImUg`U'a`U`cf`VUff]Yf`"

8 9 A C ; F 5 D < = 7 ` 8 = J = 8 9 ` D 9 F G = G H G `

K ` \ ] ` Y ` c j ` Y f U ` ž G 6 C g ` U f Y ` \ [ ` \ ` U X c d h ` f g ` c Z b Y k ` ` X [ [ ] H ` h ` W ` b c ` c [ n ž ` U ` X ` Y a ` c [ f U d ` \ ` W ` X ] j ` ] X Y ` ` ` d Y f g ] g h ` " K ` c a ` Y b ` U f Y ` & \$ ` d Y f ` W b h ` ` Y g g ` ` \_ ` Y ` m r c ` ` ` Y j ` Y f U [ Y ` X [ [ ] H ` h ` W ` b c ` c [ ] Y g k ` \ ` Y b ` c d ` Y f U h ] b [ ` ` ` h ` Y j ` f ` V i ` g j b ` Y g g ` h ` U b ` ` a ` Y b ` " = b ` V t a ` d U f ] g c b ` h c ` V c f b ! ` 7 ` U b U X ] U b g ž ` X [ [ ] H ` U ` X c d h ] c b ` f U h Y g ` U f Y ` h k ` c ` ` ` h j a ` Y g ` \ [ [ \ ` Y f ` U a ` c b [ g h ] a ` a [ [ f U b h ` Y b h f Y d f Y b Y i ` f g ] b ` 7 ` U b U X U ` " = a ` a [ [ f U b h ` Y b h f Y d f Y b Y i ` f g ` U f Y ` ` ` U g c ` a ` c f Y ` ` \_ ` Y ` m r c ` V c h ` ` ` Y j ` Y f U [ Y ` X [ [ ] H ` h ` W ` b c ` c [ ] Y g ] b ` h ` Y j ` f ` V t a ` d U b ] Y g ` U b X ` ` ] b j ` Y g h ] b ` X [ [ ] H ` ` ` g \_ ] ` ` g V i ` ] ` X ] b [ ` " " " "

D5F H" . ; F C K =B ; / ; C =B ; ; @C65@`

9bhYdfYbYi fg`Uj`Y`Ua`V]h]cbg`h`c`gW`Y`UbX`fYUW`bYk`]bhYfbUh]cbU`a`Uf`\_Yhg`":`cfmidYf`Wbh`  
cZfYgdcbXYbhg`YI`dVW`h`Y`f`mYU`f`mUj`YfU`[Y`g`U`Y`g`h`c`[`fck`Vma`cfY`h`Ub`&\$`dYf`Wbh`Ubbi`U`m`i`  
Hk`Yb`m`i`Zci`f`dYf`Wbh`YI`dVW`h`[`fck`h`VY`h`Y`Yb`%\$`UbX`&\$`dYf`Wbh`"

9B HF 9DF 9B 9I F G`5F`9 ; @C 65@@M=B 7@=B 98 ` `

:`cfm`h`fY`dYf`Wbh`cZ`

YbhYdfYbYi fg`Uf`Y`g`Y`]b[ `

[ `c`VU`nž`UbX`&-`dYf`Wbh`cZ`

h`cg`Y`k` \ `c`Uf`Y`b`ch`g`Y`]b[ `h`c`

[ `c`VU`a`Uf`\_Yhg`d`Ub`h`c`]b`h`Y`

bYUf`Z`h`i`fY`"H`Y`I`b`]h`X`

G`h`U`h`g`f`-`\$`dYf`Wbh`ž`9i`fcd`Y`

f`])`dYf`Wbh`ž`UbX`5i`g`f`U`]U`

fI` `dYf`Wbh`Uf`Y`Ua`cb[ `h`c`d`

[ `c`VU`a`Uf`\_Yhg`"@`h`]b`5a`Yf`W`UbX`7` \ ]b`U`Uf`Y`U`g`c`d`c`d`i` `Uf`a`Uf`\_Yhg`k`]h`&` `dYf`Wbh`cZ`

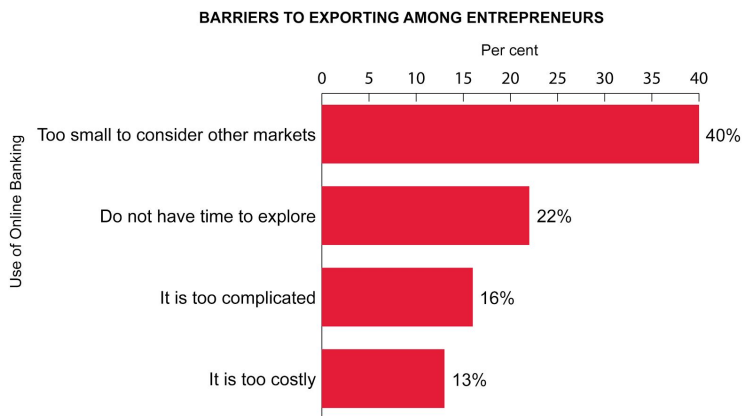
fYgdcbXYbhg`W`ff`Y`b`h`m`g`Y`]b[ `c`f`d`Ub`b`]b[ `h`c`g`Y`"h`h`Y`g`Y`a`Uf`\_Yhg`" ` `

C`Z`h`cg`Y`k` \ `c`X`c`b`ch`YI`d`c`f`ž`(` \$`dYf`Wbh`g`U`m`h`Y`m`Uf`Y`h`c`c`g`a`U`"h`c`V`ž`b`g`]X`Y`f`c`h`Y`f`a`Uf`\_Yhg`" ` `

C`h`Y`f`V`U`f`f`]Y`f`g`]b`W`I`X`Y`U`"U`W`c`Z`h`j`a`Y`h`c`YI`d`c`f`Y`[ `c`VU`a`Uf`\_Yhg`f`&&`dYf`Wbh`ž` \ ] [ ` ` ` ` Y j ` Y g ` c Z `

Vta d`]W`h`]c`b`h`c`h`c`YI`d`c`f`h`f`%`dYf`Wbh`U`b`X` \ ] [ ` \ `V`ž`h`c`Z`YI`d`c`f`h`]b[ `f`%`dYf`Wbh`" ` `

FIGURE 7



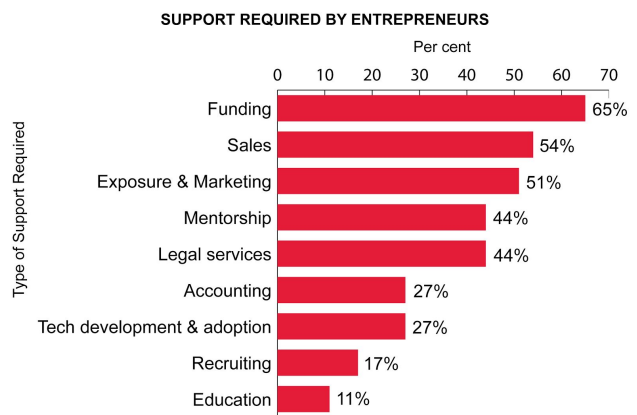
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GI DDCF HF 9EI =F 98 : CF ; F CK H< '

K \Yb'Ug\_YX'k \Uhgi ddcfh'h'YmfYei ]fY'hc [ fck žYbhfYdfYbYi fg]XYbh]Z]YX'Z' bX]b[ 'f\*' dYf'WbhtžgU'Yg'f) ( 'dYf'WbhtžUbX'Yi d'cgj' fY' f) %dYf'Wbhtž'Ug'h'Y'a cghg][ b]Z]Vbhc[ 'Udg'' 9bhfYdfYbYi fg'U'gc'fYei ]fY'UWWgg'hc' a Ybhc'fg\]d'f( ( 'dYf'Wbhtž`Y[U'gyfj ]Wg'f( ( 'dYf'WbhtžUW'ei bh]b[ 'f&+dYf'WbhtžUbX' h'W'bc`c[ m'UXcdh]cb'g' ddcfh'f&+dYf'Wbhtž''

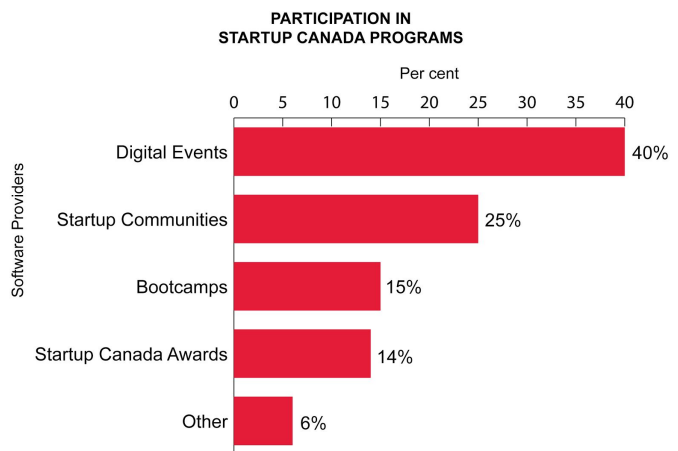
FIGURE 8



F C@9'C: 'GH5F HI D'75B585''

GYbh]a Ybhg'UVci h'GHUfh d'7UbUXU'Ua cb[ ghYbhfYdfYbYi fg'UFY'\ ][\`m'cdg]h]j Y''B ]bYhmZ]j Y'dYf' WbhcZfYg'dcbXYbhg'k ci `X'fYVta a YbX'GHUfh d'7UbUXU'hc'ch'Yfg'Z'UbX' ( 'dYf'Wbhtžbg]XYf' GHUfh d'7UbUXU'hc'VY'h'Y'bUh]cbU'fU`m]b[ 'Vta a i b]hm'UbX'j c]W'Zcf'YbhfYdfYbYi fg]b' 7UbUXU''

FIGURE 9



CZGHUfh d'7UbUXU'g'dfc[ fUa g'X][ ]hU' Yj Ybhg'UbX'GHUfh d'7ca a i b]h]Yg'UFY'h'Y' a cghidcdi `U''CZH'Y)' 'dYf'WbhcZ fYg'dcbXYbhg'k \c'dUfh]V]dUHYX' ]b' GHUfh d'7UbUXU'dfc[ fUa g]b'&\$%ž( '\$' dYf'WbhdUfh]V]dUHYX' ]b'X][ ]hU' Yj Ybhg' UbX'&) 'dYf'WbhdUfh]V]dUHYX' ]b'GHUfh d' 7ca a i b]h]Yg'': ]zhYb'dYf'Wbhi dUfh]V]dUHYX' ]b'Vcch'Wla dg'UbX'% 'dYf'

WbhdUfhjVjdUHYX`jb`h`Y`GHUfh`d`7UbUXU`5k`UfXg`

K` \Yb`Ug`\_YX`k` \Uh`h`Ymk`ci` `X` ``\_Y`hc`g`YY`Z`fca` `GHUfh`d`7UbUXU`]b`&\$%`!&\$&\$`z`fYgdc`bXYb`hg`  
]bX]WUHYX`h`Ymk`ci` `X` ``\_Y`hc`g`YY`U`g`f`cb[ `a` Uf`\_Yh]b[ `d`U`h`Z`cfa` `hc`U`W`W`Y`f`U`h`U`k`U`f`Y`b`Y`g`g`c`Z`  
7UbUX]Ub`d`f`c`Xi` V`g`UbX`g`Y`f`j` ]W`g`z`a` c`f`Y`c`b`h`Y`[ `f`ci` b`X`g`i` d`d`c`f`h`U`b`X`Y`j` Y`b`hg`]b` ``c`W` `GHUfh`d`  
7ca` a` i` b]h]Y`g`z`a` c`f`Y`X`][ ]H`U` `Y`j` Y`b`hg`h`c`g` \U`F`Y`V`Y`g`h`d`f`U`M]W`g`z`a` Y`b`h`c`f`g` \]d`U`b`X`U`X`j` ]W`z`Y`I` d`c`f`h`  
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k`Y` ``U`g`U`c`b`Y`!`g`h`c`d`g` \c`d`Z`c`f`U`W`W`g`g`h`c`g`i` d`d`c`f`h`U`b`X`f`Y`g`c`i` f`W`g`

; 9B9F5@GI DDCFH: CF 9BHF9DF9B9I FG`

Cj`Yf`U` ``z`d`Y`f`g`c`b`U` `b`Y`k`c`f`\_`g`z`h`Y`Y`b`h`f`Y`d`f`Y`b`Y`i` f`g` \]d`V`z`a` a` i` b]m`z`U`b`X`]b`W`V`U`h`c`f`g`U`b`X`  
U`W`W`Y`f`U`h`c`f`g`d`f`c`j` ]X`Y`h`Y`a` c`g`h`g`i` d`d`c`f`h`c`g`h`U`f`h`i`d`U`b`X`g`a` U` ``Vi` g]b`Y`g`g`Y`g`z`U`W`z`f`X]b[ `hc`  
f`Y`g`d`c`b`X`Y`b`hg`";` c`j` Y`f`b`a` Y`b`h`z`f`Y[ U`f`X`Y`g`g`c`Z`Y`j` Y`z`U`g`k`Y` ``U`g`i` b]j` Y`f`g]h]Y`g`U`b`X`V`z` ``Y[ Y`g`U`f`Y`  
d`Y`F`W]j` Y`X`h`c`d`f`c`j` ]X`Y` ``]h`Y`h`c`b`c`g`i` d`d`c`f`h` `5`b`V`c`f`V`z`a` d`U`b]Y`g`U`b`X`]b`X`i` g`r`f`m`U`g`g`c`V]U`h]c`b`g` \U`j` Y`  
h`Y` ``c`k` Y`g`h`g`i` d`d`c`f`h`f`U`h]b[ `U`a` c`b[ g`h`f`Y`g`d`c`b`X`Y`b`hg`

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g`i` d`d`c`f`h`U`a` c`b[ g`h`g`h`U`f`h`i`d`U`b`X`g`a` U` ``Vi` g]b`Y`g`g`c`k` b`Y`f`g`z`h`Y`f`Y`U`f`Y`g][ b]Z]W`b`h`c`d`d`c`f`h`i` b]h]Y`g`Z`c`f`  
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Y`j` Y`f`m`Y`b`h`f`Y`d`f`Y`b`Y`i` f`

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Y`b`h`f`Y`d`f`Y`b`Y`i` f`g`h`c`f`Y`U`W` `b`Y`k` `W`g`h`c`a` Y`f`g`z`a` Uf`\_Y`h`g`z`U`b`X`V`z`b`h`f]Vi` h`Y`h`c`U`a` U]b`g`h`f`Y`U`a` `W` `h`i` f`Y`c`Z`  
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A =7F C!; F 5B HG`

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i`d!`\_`Y`d`V`g`g`U`gg`c`V`U`h`Y`X`k`]h`X][`]H`h`W`bc`c`[`m`Gi`W`ž`b`X`g`U`f`Y`d`U`f`h]`W`U`f`mb`Y`X`Y`X`V`mi`  
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DF C J =89`G? =@@G`6I` =@8`=B; `CDDCF HI B =H=9G: CF`9B HF 9DF 9B 9I F G`

K ]h` ž bX]b[ žgJ`Ygž`UbX`a`Yb`h`c`f`g`\\d`Ua`cb[ `h`Y`hcd`Uf`Y`Ug`k`\\Yf`Y`b`h`f`Y`d`f`Y`b`Y`i`f`f`Y`e`i`]f`Y`  
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V`ta`a`i`b]mž]b`W`V`U`h`c`f`g`UbX`U`W`Y`f`U`h`c`f`gž`k`\\W`\\U`j`Y`h`Y`\\][`\\Y`g`h`i`g`i`ddcfh`f`U`h]b[`gž`hc`  
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## 7CB7@! G=CB`

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WVb`]bWYUgY`Uk`UfYbYgg`cZgi` ddcfhfYgci`fWgZcf`YbhfYdfYbYi` fg/]a`dfcj`Y`UWWgg`hc`Z`bX]b[ `z`  
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dck`YfYX`VmYbhfYdfYbYi` fg\]d`"