Minority status and the use of computer mediated communication: a test of the Social Diversification Hypothesis

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Multicultural societies are characterized by the existence of different groups that hold different positions in the stratification system (natives, immigrants and disadvantaged minorities). As the use of the Internet is becoming universal it is important to know how these different groups are using the Internet and if the motivations for the use of information and communication technologies (ICT) differ according to their differential position in society. This study was set out to investigate the use of the Internet in a multicultural society (Israel) with particular emphasis on similarities and differences in the use of a disadvantaged minority (Arabs), and the native majority. In doing this, I expand previous studies in which I suggested a comprehensive conceptual framework for the understanding of the association (namely the diversification hypothesis) between social standing and the motivations for using ICT and I will test the hypothesis of this framework with the actual use of a variety of social media platforms (Social Networking sites, chat rooms, weblogs and electronic mail).

Inequalities in Internet Access

As Internet access has increased in Western countries, the literature on digital inequality has moved from a focus on the first-level to the second-level of digital divide. Early studies focused on the socio-economic determinants of physical access to information and communication technologies (ICT) mostly reporting differences in access according to income, education, gender and ethnicity. But

as Internet access is reaching saturation in Western countries, there are more scholars that are calling for a shift to the study of the second level, i. e., from examining the extent and causes of differences in the Internet access to focusing on differences in intensity and types of use.\(^1\) This shift in research rests on the belief that differences in access are becoming less problematic as computer ownership has become widespread and as public access in libraries and community centers have made computers and Internet widely available.\(^4\) While inequalities of access are not completely over, this study is located on the second level of the digital divide tradition. The central research questions that this study attempts to answer are: What are the differences in the use of Internet social applications according to ethnic origin? And to the extent that they exist, is it possible to identify that the differential social position of groups in society is associated with different motivations of media choice?

### Accounting for differences in use: Social Diversification Hypothesis

In this study I rely on the Diversification hypothesis that deals specifically with the differential use of the Internet, according to social position in society. The diversification hypothesis relies on existing knowledge on the nature of associations in stratified and multicultural societies and the expanding literature on social capital. From the literature on social networks the assumption is that multi-cultural societies are segregated according to ethnic and social class lines.\(^5\) In societies that reward individuals differentially according to their income, prestige, and power, stratifications systems result in a differential ability of individuals to gain access to jobs and residential locations.\(^6\) As a result, individual social associations tend to be with others of similar social characteristics such as age, gender, marital status, ethnicity, religion, and nationality.\(^7\)

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Minorities are disadvantaged in society among other reasons because the segregated nature of society is a barrier for relationship formation and membership in out-groups.8 According to the diversification hypothesis, computer mediated communication provides a platform to overcome the existing social segregation in society. Residential and social segregation prevents members of minority groups from creating interactions across ethnicity and migration status and reduces their access to social networks that enhance the Internet use and networks that provides information on available education and job opportunities.9 Therefore this perspective proposes that disadvantaged groups (according to their migration status and ethnicity) will use the Internet to expand their social circle and overcome existing physical and social barriers to information and association. At the same time majority groups will use the Internet to keep the existing relationships and less to expand their social ties. The advantage of the majority group is in their access to educational and job resources, which they have much to gain in keeping their existing ties.

From this discussion it follows that another important assumption at the center of the diversification approach is a conceptualization of ICT’s as a space of activity and social interaction.10 The Internet is not only about communication with existing ties. Although it is true that many individuals are using the Internet as another channel of communication with existing relationships, the innovative aspect of the Internet is to provide opportunities for activities that induce social interaction resulting in providing a space for meeting new individuals, lowering the barriers for accessing information and weak ties.11 Consequently, an important motivation for minorities and immigrant use of computer mediated communication is to diversify their social network and identify other individuals who share their interests, concerns, or problems but are not part of their face to face social circle.

Diversification is a concept that can be linked to social capital. Although there are several accepted definitions and operationalizations of this concept, it is agreed that social capital refers to network ties that provide mutual support, shared language, shared norms, social trust, and a sense of mutual obligation from which people can derive value.12 The definition emphasizes the central role of the size, structure, composition, and trust in social networks. Based on these qualities, networks provide differential access to resources that include opportunities, skills, information, social support, and sociability.

Recent studies of computer mediated communication also indicate that an alternative major use is for the maintenance of existing social ties.\textsuperscript{14} While the use for diversification can be explained as an attempt to increase bridging social capital, the use of the maintenance of family and friend ties can be assumed to be a motivation for maintaining and increasing bonding social capital. What is unique in the diversification perspective is to point to the possibility that the differential use, for the formation of “bonding” and “bridging” social capital might be directed by the social position of minorities and immigrants in the social structure vis a vis the majority. One is to maintain existing relationships, a function that is important as it allows the continuation of significant relations despite distance and rapid pace of life, the exchange of information on economic and employment opportunities, the exchange of social support. Another use of computer mediated communication has been for the expansion of existing ties, as the anonymity of the medium, the flattering of social hierarchies and the lowering of barriers of social interaction encourage the formation of social ties with unknown others that belong to a different social circle. Both uses, for expansion and for maintenance of social ties are linked to the formation of social capital.

**Linking diversification and CMC (computer-mediated communications) channels**

In the last years, the online communication environment has become more and more complex, as individuals combined the use of electronic mail, chat rooms, weblogs and social networking sites. I argue that the use of different social applications partially defines the structure and content of social communication and association. The use of different applications varies, as communication partners differ according to the application being used. Different motivations probably led to the use of different communication channels.

Open chat rooms and weblogs are spaces of interaction in which users maintain their anonymity by using nicknames and interact with others who might not be known, and may reside in a different city, state or country. Individuals join chat discussions or post blog comments according to the topic around which the platform is defined. The defining characteristics of the developing social interaction are the existence of common topics or interests. As the context of the interaction is based on mutual emotional or intellectual interests, much of the interaction occurs with unknown individuals who share concerns, hobbies, or other interests.\textsuperscript{15} Social networking sites differ from other online communication


channels in a variety of characteristics. The adoption of the technology is social, as it results from a group of friends settling on a particular social networking system. A specific social networking site is adopted because of peer pressure that helps to create a critical mass of users in a social group. Using a SNS (social networking site) requires having an active list of “friends” and being on a friends’ list by the authorization of peers. In that sense, the use of SNS is more common with known and offline friends than with strangers. While chat rooms and forums are technologies that link individuals around a shared topic of interest and concern, social networking sites are technologies that link individuals who have some knowledge of each other and belong to the same social circle or to the social circle of their friends.\textsuperscript{16} Given these features of channels of communication, it is reasonable to expect that the motivation for the use of chat rooms and weblogs is to expand social ties and the use of social networking sites to conserve existing ties.

The Israeli context

Israel is a multiethnic society. Approximately 79\% of the population are Jewish, and the remainder is Arab. Jewish immigrants have come to Israel in a sequence of waves. As a result, the Jewish population consists in various groups from different backgrounds.\textsuperscript{17} The Arab minority is disadvantaged according to education and socio-economic status.\textsuperscript{18} In addition, most of the Arab population residence is in peripheral areas of the country and in small localities in which they are the vast majority of the population. The high residential concentration restricts the access of the Arab population to widespread networks and they tend to associate with residents of the same locality and neighbor localities in the periphery of the country.\textsuperscript{19}

Another important group in the Israeli population are immigrants from former countries of the Soviet Union. Immigration from these people to Israel took place in two waves. The first was during the years 1968-1979, when 150,000 Jews arrived in Israel. The second large wave of immigration started after 1989 shortly after the dissolution of the Soviet Union. Since then, it is estimated that one million immigrants from the Former Soviet Union have arrived in Israel and they represent 15\% of the total population and 20\% of the Jewish population.

Studies report a number of differences and similarities between the first and second waves of immigrants from the Former Soviet Union. Whereas the immigrants

of the 1970s were more evenly distributed across regions in Israel, those of the 90s were more concentrated in urban centers and peripheral towns. As a group they show a high level of participation in the workforce with 90% of males and 80% of females able to find jobs after four years in the country.\textsuperscript{20} Regarding social integration, studies indicate that Former Soviet Union immigrants largely confine their social encounters to other immigrants from their country of origin. Five years after immigration, about 60% of the 1990s immigrants as compared to 40% of the 1970s immigrants, reported meeting frequently with their former compatriots.

The spatial distribution of the immigrant population in the country is uneven and they have become the majority of the population in many towns in the periphery of the country. In large urban centers, one of the main features of the settlement of immigrants is their high residential concentration. Some sociologists have reached the conclusion that because of their high residential and social segregation and high level of language and culture conservation, the group of immigrants that arrived from the Former Soviet Union has become a new ethnic group.\textsuperscript{21}

Thus, the multiethnic nature of Israeli society, the high level of residential and social segregation of Arabs and immigrants, makes Israel a perfect setting for conducting this study on social position and the pattern of use of computer mediated communication.

The penetration of ICT in Israel

In Israel, Internet use is rapidly expanding. In 1998, only 11% of Israeli households reported having access to the Internet; the figure had risen to 30% by 2002 and 71% in 2008 (CBS, 2008). As Israel is increasingly moving toward an information-based society, a central question for social scientists involves the extent to which individuals from different groups in the society are able to participate in the benefits of new information technologies.

While Internet use is widespread, it is also differential according to ethnic lines. Overall 71% of the Jewish population report access to Internet but only 50% of the Arab population report so (CBS, 2008). The ethnic gap in Internet access is wider for low income individuals of both groups and narrower for the ones having more than high school education (CBS, 2008 ). Studies on the digital divide according to ethnic lines in the Israeli society have concluded that Arab Israelis have less access and use of the Internet.\textsuperscript{22} Studies that attempted to identify the sources for low access and use among the Arab population concluded that structural barriers, associated with their disadvantaged status in society, are the main source of access and use disparities. Specifically, the Arab population is concen-


trated in blue collar occupations and less exposed to Internet, social networks of support for its use. Lack of exposure contributes to the development to negative attitudes towards its use and the result is that they tend to refrain from access and use of ICT.\textsuperscript{23}

\textit{Hypothesis}

In summary, the central argument of the diversification hypothesis is that in multicultural and stratified societies immigrants and disadvantaged minorities face barriers of access to information and social networks. Accordingly, different motivations drive the differential use of Internet. The majority group has on average access to social capital and networks that provide access to information and relevant associations for being exposed to advanced educational, occupational and social opportunities. Following this argument it is expected in this study that members of the majority, (Israeli-born Jews) will be more likely to use the Internet for maintaining existing relationships with family and friends, while immigrants and Arab Israelis will be more likely to use the Internet for relationship expansion than Jewish Israelis.

\textit{Method: Design, Procedure, Sample}

Data for this study was gathered by means of a survey of a large sample of Internet users (n=1264) that responded to an online survey that included 45 items asking their motivations for the use of computer mediated communication and the channels of communication being used. Data collection was conducted during the month of September 2009. A well-known commercial company in Israel that conducts online surveys (Panels Ltd) with extensive experience with online surveys conducted the survey. The company conducts market research through the recruitment of a large panel of Internet users and each study is conducted with a selective sub-sample of this panel of Internet users. The company made a special effort to randomly select a subsample of Internet users from the large panel that resembles the population of Internet users in Israel. In particular, representing the different groups (native Israelis, Israeli Arabs and immigrants from the Former Soviet Union) according to their percentage in the population.

The questionnaire included 51 items that inquired on extent and types of Internet use, extent and types of communication technologies used (e-mail, chat rooms, weblog and SNS) and specific questions on type and purposes of Internet use.

Overall 1264 respondents that are Internet users and older than 18 years old answered the questionnaire. The full sample included 817 Israeli natives, 228 immigrants and 219 Arab-Israeli respondents.

The average of the respondents was 29.16 years old (SD=6.77). A small majority were women (54\%) and a small majority were single (56\%). In terms of education it was found that 5.5 percent reported less than high school education,
50.6 percent completed high school and 43.8 college and graduate education. In terms of channels of computer mediated communication the most frequent channel was electronic mail (95%), followed by social networking sites (62%), chat rooms (28%) and weblogs (10%). On average, respondents spent about 4.94 hours a day using the Internet ($SD=2.68$). Regarding motivations for Internet use the average value of using the Internet for maintaining existing ties was found to be higher ($M=6.56$, $SD=2.09$) than the use for expanding social ties ($M=5.86$, $SD=2.16$).

**Measures**

**Internet use for tie maintenance**

In order to measure this concept I used two items that were included in the survey. In order to measure Internet use for the support of strong social ties, individuals were asked to indicate the frequency that they use the Internet “to conserve existing relationships with their family” and the extent they use the Internet “to conserve and maintain their relationships with friends”. Responses were in a 5-point Likert scale and higher values indicated higher frequency of use for this purpose. The scale proved internally consistent ($M=6.56$, $SD=2.09$ $\alpha=.70$).

**Internet for tie expansion**

In order to measure Internet use for the formation and expansion of social ties individuals were asked to indicate the frequency that they use the Internet for the following purposes: “to expand my professional and occupational ties” and “to meet new individuals”. Responses were in a 5 point Likert scale with higher values indicating higher frequency of use for this purpose. The scale proved internally consistent ($M=5.86$, $SD=2.16$ $\alpha=.74$). Each scale was used as a continuous dependent variable in the multivariate analysis.

**Independent Variables**

**Computer mediated communication channels**

Respondents were asked to indicate whether they participated in chat-room discussions, if they keep an online diary (weblog), if they regularly use an email account for sending and receiving emails and whether they have an active profile in a social networking site. The responses for the items were coded as a series of dummy variables when 1 indicate a yes response and 0 indicates a no response.

**Ethnic Background**

In order to measure this variable two items of the survey were used. Respondents were asked the country in which they were born. For the ones that responded that they were born in Israel, a cross tabulation with an item that asked the respondent for his/her religion was conducted. From this cross tabulation two variables were created. The ones that responded being born in Israel and belonging to the Jewish religion were coded as a dummy variable that indicates “Israeli Jews origin”. The ones that responded being born in Israel but belonging to the Moslem, Christian or Druze religion were coded by means of a dummy vari-
able as “Arab origin”. Immigrants were identified with the use of two variables. The first asked the respondent to indicate the country of origin. Individuals that migrated from countries of the former Soviet Union were identified. Then their year of migration was inspected and a dummy variable was created that indicated immigrants from the Soviet Union that migrated in or after 1989 was created. In the preliminary analysis it was found that a vast majority of the immigrants (93%) belonged to this category. As their number was very small, other immigrants were excluded from the analysis.

**Social support**

This variable was measured using three items that asked the respondent to indicate in a 5 point scale the extent of agreement with the following items: “There are a number of people that I believe will help me solve my problems”, “I have a friend that I can always approach him for some advice whenever I have to make an important decision in my life” and “I have friends that I can always share with them sad and happy moments”. The three items were submitted to a factor analysis with varimax rotation and resulted in a single dimension. The items were combined into a single scale by summing the responses. Scale reliability was Alpha cronbach=.65.

**Age**

This variable was measured by subtracting the year of the survey from the year of birth. The resulting variable was introduced as a continuous variable in the statistical analysis.

**Education**

Respondents were asked to indicate the number of years of formal education that they have completed. The variable was introduced as a continuous variable in the statistical analysis.

**Marital status**

Individuals were asked to indicate their current marital status. From their responses a dummy variable was created when married was coded as “1” and other as “0”.

**Gender** was measured using a dummy variable when 1 indicates male and 0 indicates women.

**Results**

A one-way between group analysis of variance was conducted to explore group differences in demographic background and motivations for Internet use.

In terms of demographic characteristics, post hoc comparisons using Tukey HSD test indicated that the three groups differ in terms of age $F=(2,1261)= 31.60, p<.001$. The mean score for Israeli Jews (M=30.25, SD=7.01) was significantly different from immigrants (M=27.46, SD=5.46) and Arabs (M=26.87, SD=6.77). In terms of social support, no statistically significant differences were found between the three groups, indicating that Israeli Jews, immigrants and Arab Israelis do
not differ significantly in their perception of having others to rely on when life decisions need to be made. The three groups were found to differ in the extent of daily use of the Internet: $F(2, 1261) = 6.96, p < .001$. Post-Hoc comparisons using Tukey test indicated that Arab Israelis ($M = 4.32, SD = 2.42$) reported using the Internet less than both Israeli Jews ($M = 5.97, SD = 2.72$) and immigrants ($M = 5.07, SD = 2.71$).

Closely related to the study hypothesis it was found that there are statistically significant differences in the motivation for use the Internet for the maintenance of social ties: $F(2, 1261) = 9.053, p < .001$. Israeli Jews ($M = 6.61, SD = 2.05$) and immigrants ($M = 6.86, SD = 2.11$) reported on average a higher motivation to use the Internet for this purpose than Arab Israelis ($M = 6.05, SD = 2.12$). As the use of the Internet for the expansion of social ties, while there were differences indicating a higher average on the scale for Arabs, this difference was not found to be statistically significant.

In the use of channels of computer mediated communication, some interesting differences were found. The proportion of respondents reporting using weblogs was the highest for the Arab Israelis, and did not differ between Israelis and immigrants. The proportion of respondents using electronic mail was very high and similar for the three groups. Regarding social networking sites, immigrants seemed to report the higher proportion, followed by Arab Israelis and then Israeli Jews. The finding that emerges from the comparison of the three groups is that there are group differences in the motivations for using the Internet and the preference for communication channels.

**Discussion**

As the Internet has become more and more accessible to the population in Western countries, research has moved from the first-level of the digital divide (understanding access or lack of it) to second-level studies directed to the understanding of differences in the types of use and skills of population groups. This study is part of new studies that investigate group differences in the motivations and use of various channels of computer mediated communication.

Taking advantage of a multi-ethnic society divided according to ethnic and immigrant lines, a test of the diversification hypothesis was conducted with a large sample of Internet users that resemble the population of Internet users in Israel. According to the diversification hypothesis, in socially segregated societies disadvantaged groups have deficits in social capital, in particular bridging social capital. Their use of channels of online communication will be motivated by an attempt to compensate for their disadvantage and will direct the use of Internet to creating ties to expand their occupational and business ties. From this argument two hypothesis were derived. First, that minority and immigrants will be more likely to choose the use of Internet that are by design more suited for this task. The findings of the study mostly supports this hypothesis. When controlling socio-demographic and minority status, it was found that individuals who are motivated to use the Internet to expand business and professional contacts are
more likely to use chat rooms and weblogs. At the same time, individuals that are motivated to use the Internet to maintain ties with families and friends are more likely to use social networking sites. These finding indicates that each Internet application is perceived by users to be suited for a different task.

Second, a more direct test of the diversification hypothesis was conducted. The findings here indicated that the main difference distinguishes Israeli natives and immigrants on the one side, and Arabs on the other. Immigrants and Israeli born people are more likely than Arabs to use Internet for maintaining family ties and to keep ties with existing friends. At the same time it was found that Arabs are more likely to use Internet to make new contacts and to expand their business contacts.

Taking the results together the strongest support of the diversification hypothesis seems to be for the Arab population than for the immigrants. This might be explained in the existing differences between the two groups in society. As it has been shown in the descriptive analysis, the Arab population is more disadvantaged in terms of human capital than the immigrant population. In addition, the Arab population, perceived as part of the Arab world with whom Israel is in a persistent state of war, faces more discrimination than the new immigrants. This difference in social standing might be reflected in a more consistent pattern of motivations and use for the Arab population than for the immigrant groups.