Knowledge Management and Collaboration: Generation X vs. Generation Y

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Abstract

Most managers seem to believe that younger generations will be more responsive to new technologies, yet evidence to support this view is mainly anecdotal. This paper uses survey data to examine attitudes about knowledge management (KM) and collaboration. While generational cohorts do account for some differences, this study finds that well-documented inhibitors, such as lack of management support, play a more significant role in the firm's success to date in implementing KM. Relying on the intrinsic affinity for technology of GenX and GenY may prove to be a short-sighted strategy, especially in the face of impending retirements.[1]

One of the routinely made assumptions about adoption of social networking and knowledge management technologies is that the younger generations have some kind of inherent affinity for them. Generation X members "grew up with rapidly changing technology.Most are skilled at understanding and using technologies, adapt quickly to new platforms, and are practiced at learning through technological media" [16, p. 21].Generation Y members "grew up on the Internet and instant messaging"; 75% multitask while watching TV[11].With such an affinity, we might expect that the implementation of knowledge management in our corporations should be easier and more natural as the older generations retire. IT executives wonder how they can provide the necessary 21st century infrastructures for these so-called "digital natives." But once they take jobs in firms, are they really that different?

Some studies have challenged assumptions about these generational differences. One survey found greater company loyalty and less propensity to "jump ship" among Generation X members than expected [14]. Another (using only IT professionals) found that "generational differences in work values may be more of a myth than a'generation divide'" [9, p. 43].Wide-ranging research spanning basic psychological traits, work attitudes and values, understanding of career success, and issues of retention found fewer differences than might be expected [17]. However, Busch, Venkitachalam, and Richards noted that "it has been argued by many KM practitioners and academics that organizations operate at their peril if they do not recognize generational preferences in the workplace" [6, p. 47].Demographics has proven to be a strong predictor of behavior [12]. And there is no lack of popular press reports that highlight differences in the generations (e.g. [2, 11]), even noting, for example, that they sit differently [4]. Despite the urgency of understanding these differences, few studies have been done that have examined how generational differences may influence knowledge management outcomes [6].We face huge demographic shifts with the impending retirement of the Baby Boomers. This makes it imperative to understand how assumptions about the readiness and willingness of Generation X and Generation Y associates to participate in KM initiatives may influence our ability to mitigate the effects of these retirements. What role do quality of life concerns, diminished loyalty, and transitory career paths play?

One specific organization, which we will call Manucoin this paper, was concerned about many of the same issues that keeps other senior leadership awake at night. Specifically, how it would cope with the changing demographics of its workforce. As much as 35% of Manuco'sNorth American workforce and 25% of its European workforce wasto become eligible for retirement within the next five years. Associates with 30, 35, and even 40 years of service were not uncommon, and a significant portion of the corporate memory was thought to reside with them. At the same time the organization had to assimilate several acquisitions, and had expanded significantly in China and other foreign locations. A relatively large portion of the younger workforce was located abroad and did not speak English well; fifty percent of the Asian workforce had been with the company for less than five years. The reported propensity of younger generation members to change jobs frequently [5], raised questions within the management ranks of how to capture their knowledge if they were to leave the firm.

[1] A previous version of this paper was presented at 43rd Hawaii International Conference on System Sciences.

Methodology

This paperutilized a large scale survey delivered to employees atManuco. The survey questions were jointly developed by Manuco and the authors, so complete freedom to select questions relative to testing particular theories or constructs was not provided. For this reason, this paper is exploratory in nature and did not start from the theoretical examination of constructs, *per se*. Many questions were informed by the KM literature, as indicated below. This approach also precluded proposing and examining a more comprehensive model that examines effects among all constructs simultaneously.

The questions focused on collaboration techniques and practices; perceptions and use of the company's Intranet; and perceptions about "social media" (which was defined for the respondents on the on-line survey instrument). Every fifth address was selected from an HR database of all US associates with email addresses. About 100 bounced as undeliverable, and about 2,000 associates received invitations to take the survey. There were 504 responses received, of which one was blank and one was a duplicate, for a response rate of 502 usable surveys (about 25%).

The sample reflected the age patterns of the firm's US workforce: Pre-Baby Boomer (born before 1946) - 2.8%; Group I Baby Boomers (1946 to 1954) - 22.5%; Group II Baby Boomers (1955 to 1964) - 34.7%; Generation X (1965 to 1979) - 7.0%; and Generation Y(Millenials, 1980 to 2001) - 6.2%. (These groupings follow Yu and Miller [20] and are used in the subsequent analyses). 66.2% were male.

The respondents were also quite balanced across several other demographic categories. 13.6% were high school graduates, 32.3% had some college, 27.6% had a bachelor's degree, 7.5% had some graduate school, and 18.7% had a graduate degree. 2.8% were executives, 27.5% were managers, 66.5% were associates, and 3.2% were contingent or other categories. 4.8% were new hires, 16.3% had worked 2-4 years, 12.7% had worked 5-9 years, 20.3% had worked 10-19 years, 17.3% had worked 20-28 years, and 23.1% had worked more than 28 years at Manuco. The sample is a broad and deep resource for insights about this firm.

Results

We begin examining the results at the most fine-grained level, of each question, in order to develop the most nuanced view of where generational cohorts may or may not make a difference. In Section 4.2, we cast the net somewhat wider, including other demographic and situational variables. In Section 4.3, we look for generational differences in the qualitative comments about knowledge sharing included in the survey.

Generational Differences

The first set of questions concerned the extent of work-related use of each of five common collaboration technologies, with a seven point Likert scale from 1 (=Never) to 7 (=Very Often). Questions about technology were motivated by the voluminous literature that situates information technology at the center of creating new means for storage, retrieval, and sharing of information (e.g. [10]). Figure 1 shows heavy use of email, but much less use of Instant Messaging or social media.Of the 36 respondents reporting using Instant Messaging (IM) very often (6 or 7 on the scale), 38.9% were Baby Boomers, 44.4% were GenX, and 16.7% were GenY. Given the relatively smaller number of people in the latter two cohorts, this indicates that GenX and GenY members together were 2.6 times more likely to use IM than Baby Boomers.There are too few users of social media in the sample to give those results too much credence, but here the opposite is indicated with Baby Boomers about twice as likely to use social media as GenX and GenY members.

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Since the issue that is of most interest is the divide between the post-Baby Boomers and the generations before, the sample was split by year of birth for some analyses into Baby Boomers and before as one group (preGenX, born before 1965) and post Baby Boomers as the other (postBB, born 1965 and on) [20]. The mean usage reported by the preGenX group for email of 6.12 was statistically significantly lower than the postBB mean of 6.37 ($t(469)=-2.26$, $p=0.019$). Both means are quite high.

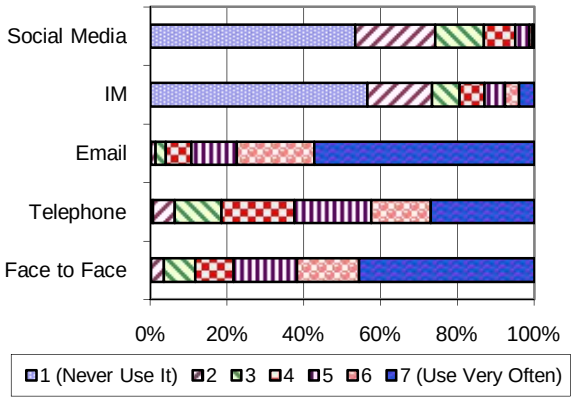

Figure 1. Extent of Collaboration Technology Use

The mean usage of IM of 1.94 for preGenX was also significantly lower than 2.43 for postBB ($t(465)=-3.01$, $p=.005$). PreGenX associates agreed more strongly with the statement that they find what they need or want on Manuco'sIntranet pages for daily firm news stories ($t(448)=2.71$, $p=.009$),for listings of external and internal news headlines ($t(448)=2.87$, $p=.005$),and for providing community pages ($t(445)=2.27$, $p=.027$). On the other hand, the postBB associates got more of what they wanted or needed from firm SharePoint sites ($t(446)=-3.5$, $p=.000$) and from using Office Communicator ($t(442)=-2.95$, $p=.004$)

Thus, while the heaviest users may or may not be the younger workers, in some cases the stereotype of more use of the newer technologies by the younger generations does hold. However, the means for the reported technologies, although statistically different, are relatively close. This survey offered limited overall evidence of large differences in technology use across the various generations. The second set of questions (Table 1) concerned the extent to which associates felt connected with potential collaborators throughout Manuco. These questions were motivated by the idea that vibrant social networks are one key to knowledge sharing and retention [18, 19]. All used a seven point Likert scale with 1 = Strongly Disagree and 7 = Strongly Agree. The same preGenX and postBB split was used.

From Table 1 we may conclude that PostBB associates feel that they have no more or less opportunities for being connected than PreGenX associates, with the one exception of connectedness to other departments. They also have more of a desire for social contact outside of work. Both groups might like to see more teamwork; and neither group communicates that often, on average, with outside experts or overseas associates.

Table 1. Connectedness perceptions by generation

Question	Statistical Difference	PreGenX mean	PostBB mean
I Communicate With Numerous Associates On A Daily Basis	None	5.85	5.75
I Have A Close Network Of Contacts Within My Department In Manuco	None	5.74	5.66
Manuco Provides Enough Opportunities For All Employees To Work As Part Of A Team	None	4.56	4.38
I Feel Connected To Other Departments Within Manuco	$t(467)=2.84$, $p=.007$	**4.22**	3.78
I Have Trusting Familiar Relationships With Experts Outside Manuco	None	4.11	4.23
I Would Like To See More Opportunities For Social Interaction With Manuco Associates Outside Of Work Hours	$t(468)=-2.41$, $p=.020$	3.54	**3.88**
I Often Communicate With Manuco Associates Overseas	None	3.22	3.21

Besides social networks, another critical success factor that is frequently cited for KM initiatives is top management support [1].

Table 2 shows differences in perceptions between the generations about how collaboration and KM are being supported at Manuco. In general, both groups are only slightly positive about (and do not differ about) the extent to which management sees knowledge sharing as a contributor to company performance, and supports collaboration and learning. The older generations think that management supports innovations more, values knowledge sharing more, and invests more in systems to support this. Neither group thinks that management supports analyzing lessons learned or offers incentives for sharing. The results in Table 2 say more about the overall health of the knowledge sharing culture at Manuco than about any differences between the generations.

A third area of questions concerned the extent to which associates are willing to share knowledge and how much they actually do it (Table 3). While it is not typical to report null results, we feel that this table is noteworthy precisely for the fact that there is not one single item for which there are statistically significant differences between the groups! Both groups are positive abouttheir willingness to share information about their position with others (generally the risk of losing one's job is cited as a reason for hoarding such information [1, 8]).

Table 2. Management support perceptionsby generation

Question	Statistical Difference	PreGenX mean	PostBB mean
Manuco Supports Innovations From Its Employees	$t(466)=2.39$, $p=.023$	**4.86**	4.52
Management Regards Knowledge Sharing Practices As Contributing To Company Performance	None	4.75	4.45
Manuco Supports An Environment For Collaboration And Learning	None	4.74	4.66
Manuco Has Demonstrated That It Values Information Sharing Among Associates	$t(466)=2.30$, $p=.022$	**4.59**	4.24
Manuco Invests In IT Systems That Facilitate Knowledge Sharing	$t(461)=2.25$, $p=.025$	**4.4**	4.07
The Culture Of Manuco Supports Analyzing Past Failures And Distributing The Lessons Learned Among Its Employees	None	3.88	3.79
Manuco Offers Incentives To Encourage Knowledge Sharing	None	3.04	2.99

Post Baby Boom associates show no lesswillingness to ask and answer questions, direct others to information or resources, communicate their new ideas and expertise, and mobilize people to work together. Both groups do not rate the level of trust as particularly high, but see it similarly.

A final set of questions (Table 4) explicitly examined the potential for the use of "social media." The question read as follows: "Social media includes a variety of tools that enable people to connect with one another and share information and ideas. It includes 'personal pages' similar to Facebook and LinkedIn as well as blogs, wikis, podcasts and RSS feeds. Evaluate the potential impact of having social media on the following."

In this case the postBB associates were more positive about the potential for social media to improve knowledge retention and to foster a culture of open and honest communication. On the other hand, neither group saw it as a means of getting out from under the yoke of too much email, and more importantly, neither group felt strongly that social media would improve their ability to get their jobs done.

Table 3. Knowledge sharing by generation

Question	Statistical Difference	PreGenX mean	PostBB mean
I Am Willing To Train And Share Information With Other Employees About My Position	None	5.85	5.85
I Would Be Comfortable With Openly Asking And Answering Questions From Other Manuco Associates	None	5.6	5.57
I Often Direct Others To Information Or Resources They Need To Do Their Work	None	5.18	5.22
I Often Communicate My New Ideas And Expertise With Others At Manuco	None	5.05	4.99
I Believe There Is A High Feeling Of Trust Among Employees At Manuco	None	4.48	4.26
I Often Mobilize People With Different Areas Of Expertise To Work Together	None	4.04	3.92

Numerous studies have confirmed that perceptions of usefulness are a key component to technology acceptance [3]. Curiously, the means for just the GenY group are much lower than the means for GenX, suggesting that those who are most familiar with the actual technologies see less potential for their use in the corporate setting.

Table 4. Social media potential perceptions by generation

Question	Statistical Difference	PreGenX mean	PostBB mean
Being Able To Retain Knowledge In The Company Given That Many Senior People Will Retire In The ShortAnd Medium Term	$t(445)=$ -3.7, $p<.000$	4.03	**4.64**
Volume Of Incoming And Outgoing Email	None	3.96	4.29
Fostering A Culture That Encourages Open And Honest Communication	$t(444)=-3.34$, $p=.001$	3.8	**4.46**
My Ability To Get My Job Done	None	3.55	3.88

Other Differences

If the generations do not account for a lot of differences in attitudes about collaboration and KM, what does? In keeping with the exploratory nature of this study, we examined a number of other demographic and situational factors that could have a bearing on differences in attitudes about knowledge sharing and collaboration. Although not formally constituted as "constructs"*per se*, we derived four composite variables for perceptions of: Connectedness, Management Support, Sharing, and Social Media. Each were based on the respective set of questions from Tables 1-4. A fifth composite variable, Technology, was defined using the five usage questions shown in Figure 1 and some related questions that are not explicitly discussed here.

For each of these variables, we performed a linear regression including one of the five composite variables as the dependent variable and the following as independent variables: Year of Birth, Year Started with Manuco, Gender, Highest Attained Educational Level (EL), Position, and Location (near HQ or not). We have summarized the results in Table 6.

While four out of the five variables did produce a statistically significant regression equation, in no case was any more than 6% of the variation in outcomes accounted for by the independent variables. (One might have expected more given some correlation in the independent variables.) Gender was significant in the cases of Technology Use and Sharing. Drilling down to our specific questions, we found that men were more likely to talk face-to-face than women ($t(489)=3.67$, $p<.000$) while women were more inclined to use email ($t(489)=-2.35$, $p=.020$). With regard to knowledge sharing, men were more likely to mobilize people with different areas of expertise to work together ($t(486)=3.08$, $p=.002$), to communicate new ideas and expertise ($t(489)=3.88$, $p<.000$) and to openly ask and answer questions ($t(488)=2.89$, $p=.004$). These results suggest that women may feel less empowered to speak openly than men, but further research would be needed to confirm such a conjecture.

Educational Level was keyin all of the significant regressions. With respect to Connectedness, the more education, the more likely associates were to communicate with foreign associates (F(5,486)=9.97, p<.000), and to have relationships with outside experts F(5,479)=3.39, p=.005). With respect to Sharing, Associates with more education were more likely to communicate new ideas with others at Manuco (F(5,486)=4.11, *p*=0.001), and to mobilize people with different areas of expertise to work together (F(5,484)=4.83, p<.000). Associates with more education felt that Manuco offered incentives to encourage knowledge sharing (F(5,480)=2.77, *p*=0.018).
With respect to perceptions of management support for knowledge management and collaboration

Table 5. Regression analyses outcomes

Meta-Variable: Perceptions of	Regression Outcome	Significant Predictors
Technology	Significant with adj. R^2=.029, F(6,447)=3.223, *p*=.004	Gender: □ = .102, t= 2.122, *p*=.034 EL: □ = .136, t=2.771, *p*=.006
Connected-ness	Significant with adj. R^2=.020, F(6,447)=2.549, *p*=.019	EL: □ = .155, t=3.137, *p*=.002
Management Support	not significant	
Sharing	Significant with adj. R^2=.062, F(6,447)=5.891, *p*<.000	Gender: □ = -.114, t=-2.417, *p*=.016 EL: □ =4.465, t=.216, *p*=.000
Social Media	Significant with adj. R^2=.056, F(6,4240=5.214, *p*<.000	Year of Birth: □ =.131, t=2.147, *p*=.032 EL: □ =-2.652, t=-2.652, *p*=.008

(Table 2), it is striking that the regression failed to show any relationship between these variables. Some have asserted that associates who have worked longer (and therefore have often achieved higher level positions), would tend to evaluate what management is doing more positively. Again drilling deeper, we investigated how years worked may have related to the propositions regarding management support. Initially new hires had a much more positive perception (mean = 4.87) about whether Manuco supported analyzing and learning from past failures (Figure 2), but once they had worked two or more years, the mean dropped. The low was 3.55 for those who worked 20-28 years. Overall there were was a statistically significant difference between the groups (ANOVA (F(5,466)=2.71, p=.020). Figure 2 also shows that after several years of experience there were similar drop offs inperceptions about whether Manuco offered incentives for knowledge sharing (F(5,463)=3.21, p=.007) and whether it supported innovations (F(5,466)=2.48, *p*=.031).

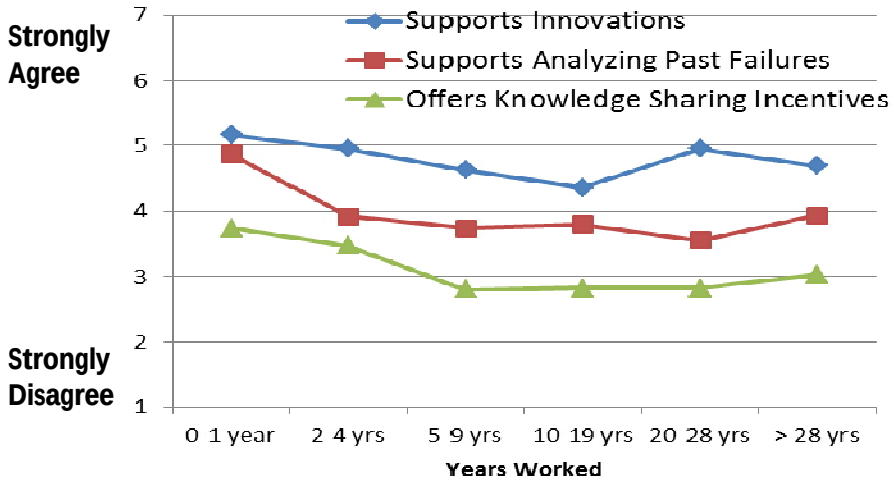

Figure 2. Decline in perceptions with years worked

Qualitative Responses and KM Success Factors

Our survey also provided the means to examine these same important critical success factors for knowledge management from a qualitative point of view. We broadened the search for explanations by performing a content analysis on the following open-ended question administered as part of the survey:

"At Manuco, what things prevent your collaboration with others?"We are again concerned with how the patterns of responses relate to the generational cohorts.

There were 319 comments, comprising 63.5% of the sample.Those who commented had higher levels of education $\chi^2(1,491)=15.8, p=.003$. For example, 43.3% of high school graduates commented, whereas 70.7% of those with graduate degrees did. Position also played a role in commenting: only 53.2% of associates commented, while 62.8% of managers, 71.4% of executives, and fully 81.2% of contingent/other employees did. These differences are also significant $\chi^2(1,498)=8.87, p=.031$. Those who commented came from all generational cohorts, with no significant differences in participation $\chi^2(1,471)=3.485$, $p=.480$. Similarly, there were no significant differences by gender $\chi^2(1,471)=.789$, $p=.372$ or by years worked $\chi^2(1,475)=6.371, p=.272$.

To carry out the content analysis, each answer was examined and assigned to one or more categories according to the theme or themes evident in the answer. New categories were created as needed, resulting in a total of 28 categories. All answers were then re-checked to ensure that no possible assignments had been overlooked. The categories were given higher-level labels, re-sorted, and combined or adjusted for consistency. A familiar picture soon emerged, consistent with many of the KM Factors derived from a broad literature review by Anantatmula and Kanungo [1].

Table 6. Distribution of KM factors within comments

KM Factor	Number of related comments	Percentage of all comments*
Top management support/ involvement	202	63.3%
Sharing / Culture	83	26.0%
Technology infrastructure	49	15.4%
Connectedness / Content quality	27	8.5%
Communication	15	4.7%
Standard KM processes/Formalization	3	0.9%

*Percentages add to more than 100% because some comments dealt with more than one topic

Table 6 shows that by far the largest number of comments had to do with perceptions of policies and actions of higher level management. Below this, but still mentioned relatively frequently, were cultural and technology issues. In the following paragraphs, we discuss these issues in the same order they are discussed in Section 4.1.

Technology infrastructure was the third largest area of comments about factors that prevented collaboration was. 43% of commenting respondents in this section were concerned about how the dispersed geographic locations of the firm made it difficult to have sufficient face to face collaboration. In this case it was the older cohorts that were more concerned about this, with the percentages falling off successively from Baby Boomers down. It may be that the younger generations are more comfortable having more meetings online. 29% of the commenting respondents in this area pointed towards a multiplicity of systems, systems that were too varied, or the lack of training to use them. 18% found the systems supporting knowledge retention and collaboration to simply be poor. With 3.3% and 1.7% of the preGenX members expressing these sentiments respectively, versus 0.6% in both cases of the postBB members, it is clear that these concerns are more pressing for the older cohorts. One typical comment read, "...many e-sources. No real standards. Different business group or dept approaches."

One major issue was cited with respect to content quality that could inhibit connectedness: the absence of a viable companywide directory that would help associates find who knows what about the problems with which they are grappling. Of the entire sample, 8.6% of GenY associates, the highest percentage, expressed this sentiment. However, in the aggregate, the preGenX group expressed it more often (5.6% of all members), versus just 1.8% of the postBB members. One comment underscored the difficulty of setting up necessary social networks: "New acquisition - still learning who to 'bother' with 'corp' details, or who to 'leave alone' and find another 'associate' for answers."

Drilling down into the"management support"comments, the greatest inhibitor experienced by the respondents was a lack of time. 64.4% of those commenting in this section specifically flagged time as a key inhibitor. Part of this was inability to set up meetings for collaboration, and some was work overload, also expressed by 13.4% specifically as "workload."Remarkably, if we consider the entire sample of n=502 respondents, about 28-35% of eachgenerational cohort expressed this sentiment; time pressure is being felt across the board.

One typical comment read: "Time, they have taken away so many jobs that we are all too busy to pick up anything new or take a little time away from our day to day activities." Besides this, 11.9% of the commenting respondents in this category perceived a silo mentality in the firm that discouraged communication across organizational lines. This was expressed most frequently at the extreme ends of the age spectrum, with 14.3% of the entire sample of PreBB associates expressing this idea, along with 8.6% of the entire GenY cohort. A typical response: "Silos exist in this organization which make it difficult to collaborate. There is no emphasis on cross-functional teams to get things done."

Within the sharing/culture area, the most frequently expressed ideas were that competition and fear for job security, coupled with incentives that reward individuals rather than teams, stifled knowledge sharing. 32.5% of commenting respondents in this area expressed these ideas, including 6.3% of the entire sample of PreGenX and 1.2% of PostBB respondents. 31.3% of commenting respondents expressed ideas that translated into a lack of a culture of sharing, and here about 4% of both the preGenX and postBB respondents made this comment. One respondent noted, for example, "The perpetuation of single-minded thoughts, and competitive natures that pit associates against one another." 20.5% pointed towards a lack of receptiveness to new ideas, especially at higher levels. This particular concept was expressed mainly by GenX (6.7% of the entire sample) and GenY (5.7% of the entire sample); the older cohorts may think that they are receptive. One particularly caustic comment read, "[Manuco]'s culture has an issue with seniority.Employees that have been here for many years feel they know what [Manuco] has done and what should be done and are not open to new ideas from new employees.[Manuco] preaches collaboration, but when an associate tries to bring new ideas to the table, they are either shot down or bogged down with red tape and road blocks."

Comments from the contingent associates were particularly strident. One said that an inhibitor for collaboration was "The inability to talk to one another without the things you talk about being twisted into somethign [sic] else and become gossip." Another wrote "Distrust from management. They don't believe their employee's [sic], but believe other High level managers, that don't process detail work." A third wrote "Distrust of management, the good old boy net-work [sic] is thick, and no direction at all from the vast array of pathetic managers." Given the high number of comments from those in this category included in the survey sample, these comments are of some concern.

Of interest also are categories from Anantatmula and Kanungo's analysis [1] that did not show up at all in any of the comments. While it is possible to construe some of them as indirectly related to the topics of strategy and leadership, the comments seemed a better fit with the top level support category. No associates mentioned measuring results of KM (possibly because this is still not particularly well-understood [15]). Neither was budgetary support explicitly mentioned. It may be that KM at Manuco is not far enough along that associates are thinking about strategy, leadership, budgets, and results.

Discussion

In this exploratory study we have examined differences among the generational cohorts across five major areas that contribute significantly to knowledge management and collaboration success. In the technology area, most of our findings track along with stereotypes about the generations. The PreGenX members use the Intranet in a more conventional, passive way to receive information, are worried about how they can continue to meet face-to-face in the midst of global expansion, and find the systems and training for knowledge management and collaboration to be confusing and inadequate. The PostBB cohorts are much more likely to use IM and SharePoint, and see a greater potential in social media for knowledge retention and fostering open and honest communication. In the other areas, we found fewer differences than might have been expected given the publicity about difference among generational cohorts.

In the area of connectedness, the PreGenX members feel more connected to other departments, but feel an inability to find people across the entire corporation given the existing KM system content. PostBB members desire more social contact outside work, but in other respects are similar. Both groups seem to be equally willing to share information, but the PreGenX groups are more likely to be worried about competition with other associates, potential job loss, and the absence of incentives to share. All feel a lack of a culture of sharing and neither think too highly about the level of trust within the firm. The younger cohort especially feels that higher level management is not receptive to new ideas. The area of top management support seems particularly daunting at Manuco.

All cohorts feel that not enough time is provided for them to engage in sharing and collaboration, and several groups feel that a silo mentality and organization inhibits cross-functional sharing. While the PreGenX members are more likely to feel positively about top management support for innovations, knowledge sharing, and technology investments for this, they feel less positive about other aspects of top management support.

Thus, this study offers limited confirmation about differences in generational cohorts. To a greater extent, this study offers confirmation of the importance of the KM Factors that have been found by other researchers [1]. The most important, indeed, again appears to be top level support by management. Manuco has not created a culture that is particularly conducive to KM, knowledge sharing, and collaboration. On the most significant aspects of sharing—developing a culture that is conducive to learning from past failures, and providing incentives for knowledge sharing—faith in the policies of upper level management falls off with years worked (in some cases recovering slightly at the most years worked, but not to a statistically significant degree). The picture that emerges is of a firm where new hires, regardless of their generation, are being co-opted into an older-style corporate culture that is dominated by silos and lack of receptiveness to new ideas. If there is diminished loyalty in GenX and GenY, it may be because they do not perceive that they are given a voice quickly enough within the existing corporate culture. Fortunately, the relatively high willingness to share across all cohorts leaves a reserve from which Manuco can draw in subsequent efforts to implement KM.

The good news for Manuco from these results is that the younger cohorts do not share many of the negative attitudes about sharing and collaboration found in the older cohorts. On the other hand, the fact that faith in top management support seems to collapse over time as associates gain more experience in the firm should be deeply troubling. Perhaps most telling for those who might see technology as a solution to these problems, no cohort is particularly enthusiastic about the ability of social media to help them get their jobs done. Also of particular concern for Manuco should be that contingent workers feel left out of the process more generally, and that there is some evidence to indicate that women do not feel as empowered as men to engage in knowledge sharing. Both gender and educational level offer some limited alternative explanations for differences in perceptions of knowledge management and collaboration.

Conclusion

This study suggests that relying on any inherent ability of the younger cohorts to leverage their technological mastery in the workplace may well be shortsighted. The affinity for technology of the digital natives will not be enough to mitigate the effects of the extant corporate culture. In a nutshell, Manuco is so busy pursuing short-term goals that little time has been allocated for trying to address the impending retirement crisis. It is likely that this is the same situation in many large manufacturing firms. Manuco is not a leading firm for use of KM (it did not, for example, win a MAKE or other KM award), as are often studied by KM researchers (e.g. [7]). It is much more important to change the general corporate culture, tear down silos, and increase teamwork—regardless of generational cohort. Seniority and the behavior of those who have been at the firm for a long time towards those who have been there a short time is more of a concern. Preventing a fall-off in belief in the support for sharing and collaboration can be a function of better communications, on the one hand, and better incentives, on the other.

No one contends that implementing knowledge management systems is an easy task. Indeed, it is likely to get harder in the face of changing demographics and location patterns of knowledge around the world. Manuco is not integrating contingent associates into knowledge sharing initiatives. It is struggling with the problem of what and how much to translate on the corporate Intranet. Manuco shows a lack of connectedness to outside departments, let alone with foreign associates, and a strong desire for more face-to-face contact. This also does not bode particularly well for Manuco and similar firms in the face of increasingly complex migratory patterns of knowledge around the world. Before KM can usefully ameliorate these broader problems, the firm must be ready to make use of KM. Manuco will have to do more than add social media/Web 2.0 tools to its Intranet if it expects to address these problems effectively.

Limitations and Further Study

One main limitation of this paper, of course, is that the sample only involved one firm. However, this permitted an in-depth study, and the scope of the survey, with 502 respondents, was larger than is typically found. The sample did not include the overseas associates, and so a complete picture could not be examined. Place of birth was not collected, excluding the possibility of taking into account foreign-born associates who now work in the US. Some categories, such as contingents, had comparatively fewer responses.

Second, a comparatively large number of statistical tests were performed and reported in this paper, which increases the probability that at least one of the tests will be invalid. However, many of the reported *p* values are quite low (less than .001 or near it). As noted above, some correlation in the independent variables used in the regression analyses may cause those results to be slightly overstated, but removal of several of the independent variables showed little differences in the results.

While a main focus of our study was not on the issue of time, we found striking evidence that the perception of lack of time for increased knowledge sharing is a major inhibitor for KM. Connelly *et al.* [8] provided an extensive discussion of the literature that supports or contradicts this claim. They conjectured that time "may be simply too distal a variable to have an appreciable impact" [8, p. 7], but that lack of time could lead to disengagement from knowledge sharing, although this would not necessarily be intentional. If disengagement from knowledge sharing is an unintentional result of the lack of time, it may mean that management will be in a better position to implement KM programs than if associates are already disinclined, more generally, to believe in the efficacy of KM. Further study is needed to understand the extent and implications of statements by associates about lack of time.

Lastly, we expect that this study, though exploratory and limited by the requirements of the organization, will lead to the further development of theoretical constructs that will enlighten our understanding of generational differences. We believe that this in-depth examination of one organization helps begin to provide the appropriate insights for that journey.

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