

# IBM Research Report

## Enhanced Professional Networking and Its Impact on Personal Development and Business Success

J. Chen<sup>1</sup>, C.-H Chen-Ritzo<sup>1</sup>, C. A. Chess<sup>2</sup>, K. Ehrlich<sup>3</sup>, M. Eleftheriou<sup>1</sup>,  
M. E. Helander<sup>1</sup>, C. Lasser<sup>1</sup>, S. C. McAllister<sup>5</sup>, S. A. Medeiros<sup>6</sup>, K. Penchuk<sup>4</sup>,  
J. L. Snowdon<sup>1</sup>, M. L. Steen<sup>1</sup>, A. Topol<sup>1</sup>

<sup>1</sup>IBM Research Division  
Thomas J. Watson Research Center  
P.O. Box 218  
Yorktown Heights, NY 10598

<sup>2</sup>IBM Sales & Distribution  
Industry Solutions Lab  
Hawthorne, NY 10532

<sup>3</sup>IBM Research Division  
One Rogers Street  
Cambridge, MA 02142 USA

<sup>4</sup>IBM Global Business Services  
On Demand Innovation Services  
New York, NY 10024

<sup>5</sup>Louisiana State University  
Baton Rouge, LA 70803

<sup>6</sup>Sandia National Laboratories  
Albuquerque, NM 87123



Research Division

Almaden - Austin - Beijing - Cambridge - Haifa - India - T. J. Watson - Tokyo - Zurich

# Enhanced Professional Networking and its Impact on Personal Development and Business Success

*J. Chen<sup>1</sup>; C.-H. Chen-Ritzo<sup>1</sup>; C. A. Chess<sup>2</sup>, K. Ehrlich<sup>3</sup>, M. Eleftheriou<sup>1</sup>, M. E. Helander<sup>1</sup>, C. Lasser<sup>1</sup>, S. C. McAllister<sup>5</sup>, S. A. Medeiros<sup>6</sup>, K. Penchuk<sup>4</sup>, J. L. Snowdon<sup>1</sup>, M. L. Steen<sup>1</sup> and A. Topol<sup>1</sup>*

<sup>1</sup>*IBM T. J. Watson Research Center, Yorktown Heights, NY 10598*

<sup>2</sup>*IBM Sales & Distribution, Industry Solutions Lab, Hawthorne, NY 10532*

<sup>3</sup>*IBM T. J. Watson Research Center, Cambridge, MA 02142*

<sup>4</sup>*IBM Global Business Services, On Demand Innovation Services, NY, NY 10024*

<sup>5</sup>*Louisiana State University, Baton Rouge, Louisiana, LA, 70803*

<sup>6</sup>*Sandia National Laboratories, Albuquerque, NM 87123*

## **Abstract:**

At the IBM T. J. Watson Research Center, the Watson Women's Network (WWN) devised an innovative format for a networking event to facilitate professional networking between IBM's technical and business communities. The WWN organized two networking events based on the devised event format. We used social network analysis and other methods to show that the event fostered cohesion between divisions; served as a catalyst for exchange of ideas and opportunities; enabled development of social and professional communication skills; generated intellectual property and measurable business impact. The results help to quantify how professional networking events cultivate new cross-divisional business collaborations and help enhance personal and professional skills. The lessons learned from the organization of this event may benefit other organizations, diversity groups, and professional networks.

## **1. Introduction**

At the IBM T. J. Watson Research Center, the Watson Women's Network (WWN) recently devised an innovative format for a networking event to connect people who work in IBM business services with IBM researchers. This "mixer" was designed to facilitate professional networking between IBM's technical and business communities. In this paper, we describe the mixer format that enabled professional networking as well as the tangible results. The results were: i) Technical participants learned more about client issues, which positively influenced their research; ii) Business participants learned more about technical projects and innovations within the IBM Research division, which helped them to leverage solutions for potential external clients. Accordingly, all participants gained opportunities for professional and personal growth and development. The event fostered cohesion between divisions, served as a catalyst for exchange of ideas and opportunities, enabled development of personal and career communication skills, and generated intellectual property and measurable business impact.

To maximize understanding of participant interaction, both across and within divisions,

and to estimate impact of the event on personal communication skills development, the mixer organizers established innovative methods for modeling and measuring new connections, personal growth, and collaborative opportunities. These methods enabled identification of new professional links, planned follow-ups, and preliminary indication of business impact. In this paper, we discuss the social networking model, analysis and conclusions. The results help to quantify how professional networking events cultivate new cross-divisional business collaborations and help enhance personal and professional skills. The lessons learned from the organization of this event may benefit other organizations, diversity groups, and professional networks.

This paper is organized as follows. First, we describe the “mixer” event history, function and organization. Next, we explain the methods used to evaluate the outcome of the meeting, namely Social Network Modeling Analysis. We describe a variety of observed benefits in our professional networking case study and highlight two particular ones: the enablement of collaboration opportunities and communication skills improvement. We conclude by encouraging the reader to test some of our techniques, since they have shown to provide a positive and measurable business and technical impact in the IBM community.

## **2. The Idea Behind the “Mixer” Event**

The Watson Women’s Network (WWN) is a diversity network group of professional technical women at the IBM T. J. Watson Research Center co-located in Yorktown Heights, NY, Hawthorne, NY, and Cambridge, MA. Our mission is twofold: to encourage a workplace environment at the IBM T. J. Watson Research Center that advances the professional effectiveness, individual growth, and recognition of all women; and to promote programs in mentoring, networking, knowledge sharing, and recruiting together with partners in Research Division management, Human Resources and other diversity network groups.

Figure 1 shows the team of people behind the idea and execution of the “mixer.” The team comprised people from IBM Research, IBM Global Business Services and IBM’s Sales and Distribution divisions. The idea of holding a “mixer” was a result of the team’s brainstorming session to provide a mechanism to create new professional links between R&D and the business (i.e., client-facing) teams. The team was convinced that increased informal interactions between technical and business communities would inspire new forms of exchange, resulting in cross-divisional collaborations that would be beneficial for individual professional growth as well as for the company at large.

The idea of the “mixer” immediately gained executive sponsorship, and quickly evolved as an accepted mechanism to create new links between researchers and client-facing teams. It was thought that attendees representing different sites and internal organizations would come up with new ideas and plans which could be observed and measured, and that this would help dispel an aging company myth that you have to be co-located, in the same department, or on the same project to come up with new ideas.



*Figure 1. Graphical description of the “mixer” event idea*

The expected (or observed?) technical and business benefits of intentional and informal “mixing” of individuals from different business of interest to the mixer organizers were:

- *Innovation:* Traditional artifacts of invention, research and development (e.g., patent applications; new concepts for projects and papers)
- *Business Value:* Items of interest in a successful professional services business (e.g., client proposals; deal influences; deal wins)
- *Personal/Professional Benefits:* Benefits generally recognized by individuals as being “of value” but are difficult to measure and are rarely acknowledged for their impact (e.g., new contacts; inspiration, learning about new technologies, and about your company)

### 3. Data Collection Methodology

The WWN Mixer was held in May, 2006 at IBM’s Industry Solution Lab (ISL) in Hawthorne, New York, at the end of the workday. The ISL is a facility for executive briefings with a demonstration showcase where IBM clients can discover how leading-edge technologies and innovative solutions can help solve their business problems. This environment helped cultivate stimulating conversations between participants. Due to

the overwhelming success of the first mixer, a second mixer was held in November, 2007. The objectives of both events, set forth by the organizing committee, were helpful for securing necessary funding, as well as for promoting the event to potential attendees. These objectives were four-fold:

- 1 *To Facilitate Professional Networking* - to provide an opportunity that was informal, yet orchestrated in an organized manner, to foster communication among people working in multiple divisions and organizations across multiple locations;
- 2 *To Serve as a Catalyst for Exchange* - to increase possibilities of new ideas and business opportunities through individual connections and informal networking
- 3 *To Inspire Innovation and Knowledge Transfer* - to create an opportunity through cross fertilization for attendees to learn about IBM's research innovation and capabilities and potentially related client issues and opportunities.
- 4 *To Improve Personal Communication Skills* – by providing a positive environment for people to practice!

The program for the mixer combined light technical content, refreshments, live music and networking. The light technical content involved a plenary speech that gave a preview of IBM's Innovation Jam [1] and a series of technical demonstrations that attendees could peruse in a circuit fashion. IBM's Innovation Jam brought together IBMers, their families, customers and business partners from more than 160 countries to join in a new form of collaborative innovation [2]. The Innovation Jam helped to move simple invention and idea generation forward to identify new market opportunities and create real solutions that advance businesses, communities, and society in meaningful ways. It achieved this by exploring some of today's most urgent and promising areas, including transforming travel, transportation and entertainment; the changing nature of global business and commerce; the science and business of well-being; and balancing economic and environmental priorities. The attendees of the "mixer" felt privileged to have been a part of this 'exclusive' preview to the Innovation Jam.

To evaluate the attainment of the mixer's objectives we administered an online survey to collect demographic, attitudinal and relational data. We administered one version of the survey prior to the event, to collect data about existing relationships and expectation, a slightly modified version of the survey post-event to collect data about new relationships formed as a result of the event, and a follow up survey nearly a year later. The sequence of surveys is shown in Table 1.

**Table 1.** Summary of data collection steps

<b>Survey</b>	<b>Timeframe</b>	<b>Objectives</b>
Pre-event survey	1 week prior to event	<ol style="list-style-type: none"> <li>1. Collect event expectations from attendees, prior to event</li> <li>2. Collect demographic information</li> <li>3. Collect existing social network</li> </ol>

		data (who knows who)
Post-event survey	1 week following the event	<ol style="list-style-type: none"> <li>1. Collect qualitative feedback about how the event went</li> <li>2. Construct the “post-event” social network model. By comparing this with the pre-event network model , we were able to determine which new links were formed as a result of the mixer</li> </ol>
Post-event follow-up survey	9 months following the event	Collect qualitative feedback about changes and impact of the mixer

In addition to the surveys, the mixer organizers leveraged an IBM internal, web-based Wiki to foster sharing of expertise and identification of client problems. The Wiki included a general announcement and description of the event, and allowed participants to enter biographical information that was not available on the company intranet directory (i.e. IBM Bluepages). Twenty-eight (28) percent of the attendee entries were entered in the last 48 hours prior to event, which revealed to us that there was energy and anticipation leading up to the mixer. The pre-event survey indicated that attendees received positive value from the Wiki.

We collected data about “who knows who” in the initial survey, prior to the event, by asking people about the frequency and most recent communication with each of the people who were expected to attend the event. The names were listed on the survey in the form of a roster and were based on the RSVPs we had received.

### **Social Network Modeling and Analysis: General Methodology Used**

We analyzed the relational data (i.e. “who knows who”) using Social Network Analysis (SNA) [3] which is a method for analyzing and visualizing the structure of connections (“ties” in the SNA vernacular) between people. These connections are important determinants of social relations, such as power and influence, which affect the spread of innovation and the acquisition and sharing of information. The core data for an SNA are a) the set of connections between people, often represented in the form of a matrix showing the strength of each persons’ connection to every other person in the group, and b) individual attributes such as business unit or geographic location.

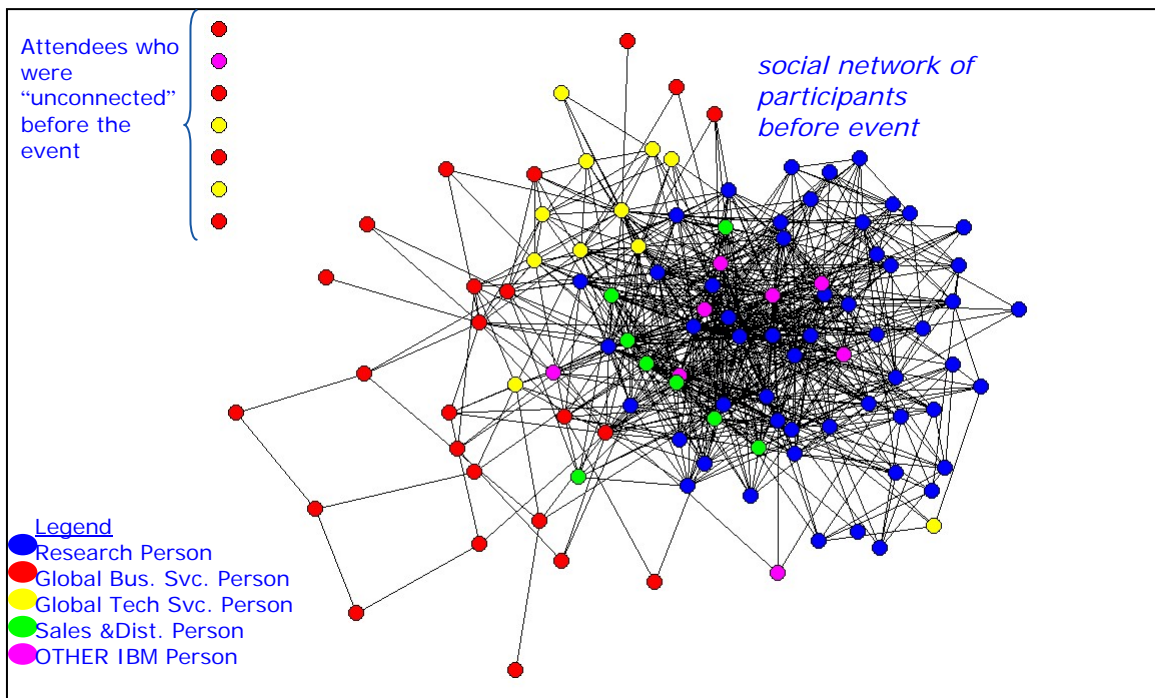
We decided to use SNA to help us evaluate the effect of the mixer because it helps us to see individual relationships as well as the strength of connections among the group as a whole. It also allows us to see whether people are connecting across business units or whether they are only linked to people within their same business unit.

Social network analysis has historically focused on metrics related to the importance of nodes (i.e. individuals) rather than the importance of links (or relationships). Our methodology, however, focuses on the importance of introducing new links into the network of Mixer attendees. One motivating factor for this approach is that new relationships are often easier to create than new employees (one would have to go through

the entire hiring process). Our emphasis on link importance is based on the hypothesis that the placement of links in a social network may also be related to overall business performance of a group.

Moreover, we consider the impact of new links to network level metrics, as opposed to dyadic or node level metrics. Our reason for focusing at the network level is simple: consider the act of introducing two individuals. The individual benefits from this new linkage are often obvious. For example, new colleagues may lead to eventual research collaboration and publications. When introducing two people and subsequently creating a new link, the benefits to the system as a whole are not always obvious.

We used standard SNA methods to construct social networks of participants before and after the event. Note that in using surveys for our data collection, we were careful to ensure participants that they would be anonymous. Also, because individuals are asked “do you know person x?”, there was a possibility that one person could say “no” and another could say “yes.” Our analysis took a conservative approach: we only considered a new link to be formed when there was reciprocity (i.e. both members of a pair of people answered in a similar fashion). Figure 2 shows the pre-event social network, where the node attribute “organization” is distinguished by color coding.



*Figure 2. Pre-event social network*

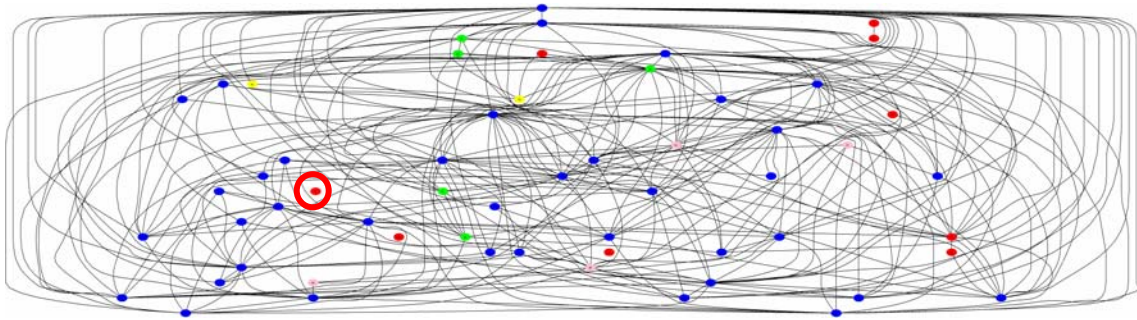
#### **4. Observed Benefits in our Professional Networking Case Study**

A classic example of the individual benefits of social network structure is embedded in the case of Paul Revere and William Dawes, as examined by Uzzi and Dunlap [4]. Revere’s



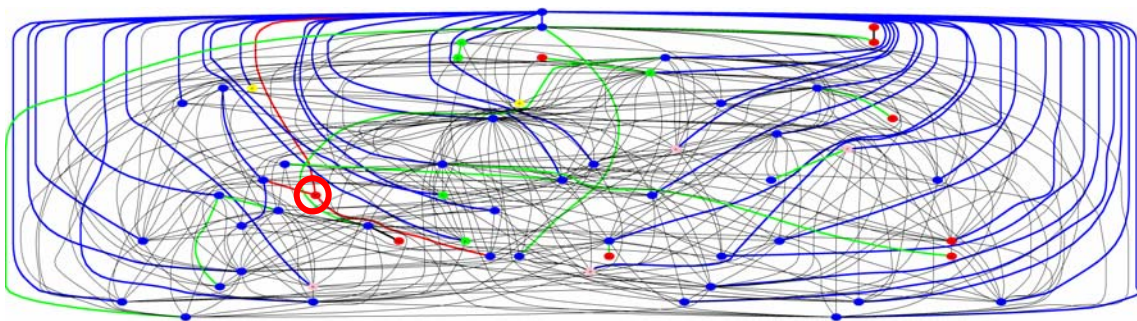
social network connects multiple clusters of people who are linked through Revere himself. Dawes' network is just one big cluster. It's easy to understand why news carried by Revere would reach a wider audience than news carried by Dawes. In fact, Paul Revere is known historically for his effectiveness, while Dawes is barely known. The message here is that *it is not only "who you know" that matters, but the pattern of who you know.*

Take for example the case of Person #50, who attended our WWN mixer. This person did not know any other attendees prior to the event (see Figure 3), indicating a very brave person to attend such a professional networking event.



**Figure 3.** Pre-event social network. The node circled in RED is Person #50.

As indicated in Figure 4, Person #50 met three new people at the mixer, as detected through before and after social network surveys. (Note that these were reciprocally reported new links, as per our methodology for deciding on the validity of a new link.) It turns out that the three new people met by Person #50 actually connected them to *all* event attendees through the paths resulting from the indirect relationships. Thus, Person #50 met and formed 3 high quality relationships, and ended up indirectly “knowing” everyone in attendance. The future benefit of such a large indirect network is generally well acknowledged – Person #50 might find her next job, or project opportunity, by asking her new colleagues to connect her.



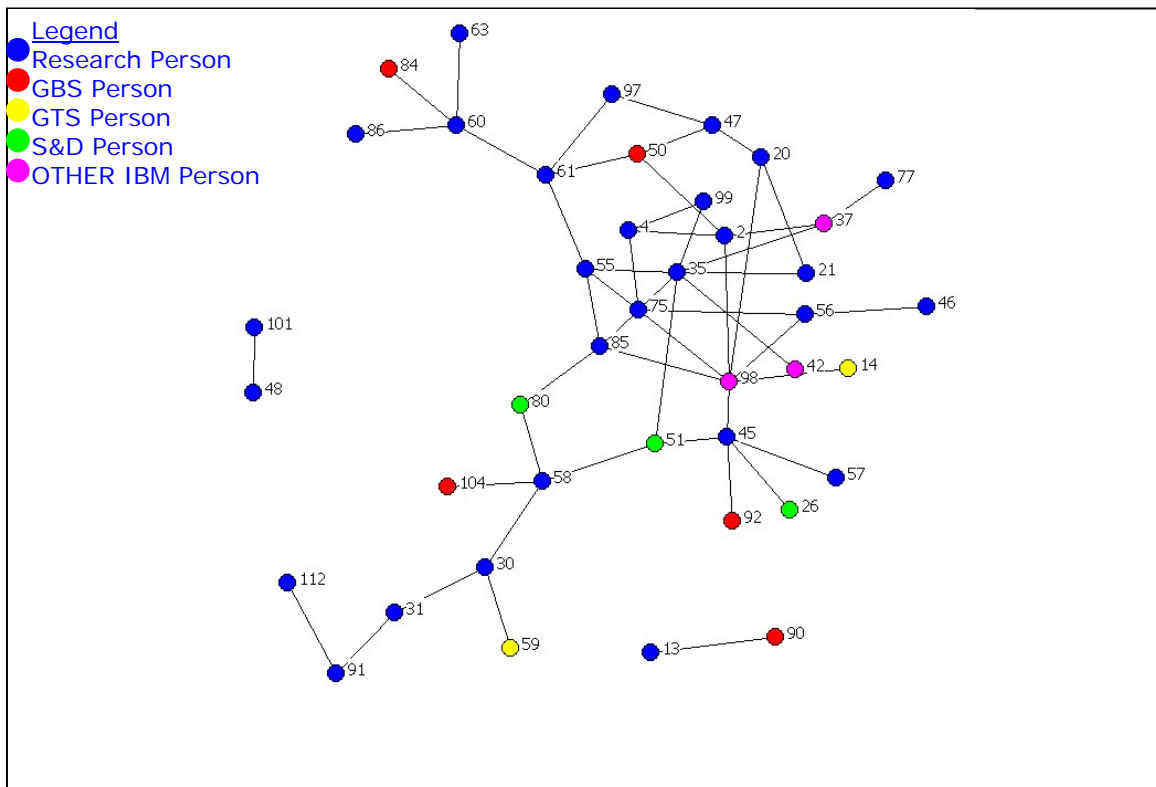
**Figure 4.** Post-event social network. The node circled in RED is person #50. In fact, the overall benefit to the attendees of the mixer (seen in comparison between Figure



3 and 4) shows that the average distance between any pair of individuals decreased after the mixer occurred. By the addition of new links, the group became more cohesive.

The benefit of a denser, more cohesive network has also been shown through an internal study of IBM sales teams, where high performing teams had denser advice networks than lower performing teams. (See for example, [5].)

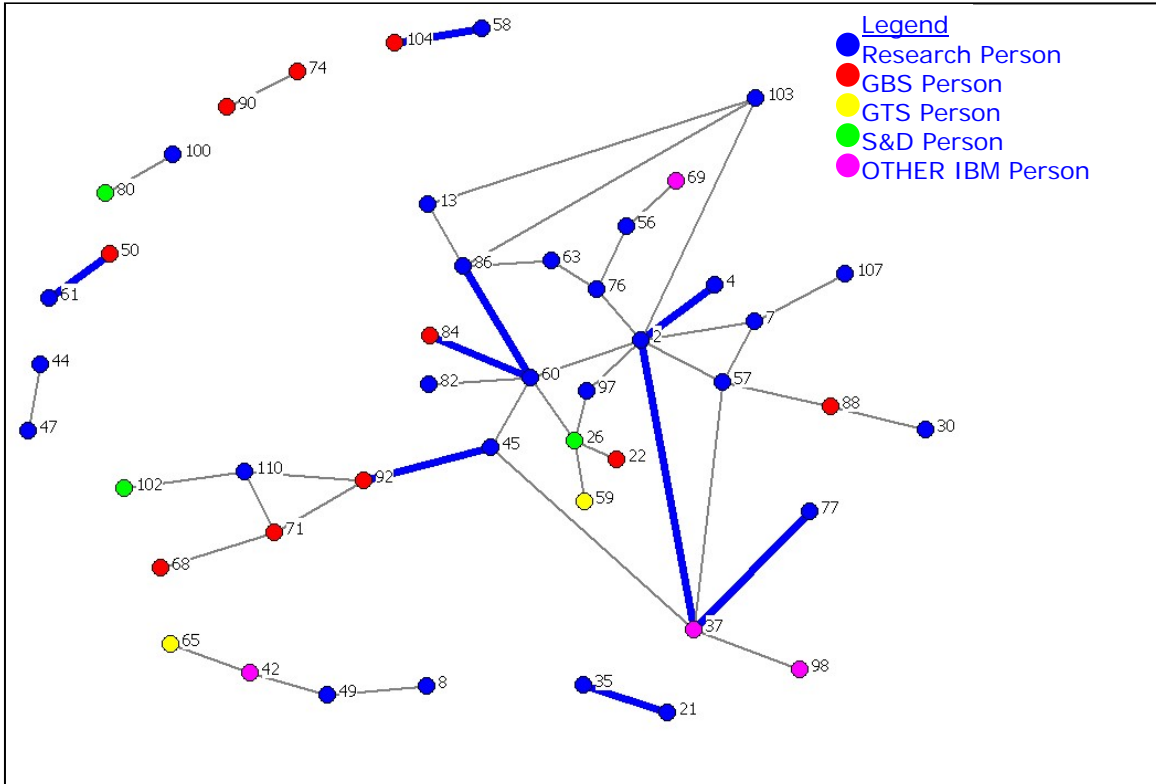
Figure 5 shows the new links formed between individuals – there were a total of 52 new links formed, involving 42 unique individuals. Some individuals, such as person 50, formed more than one new link). As measured, attendees who made new contacts gained from 1 to 7 new links.



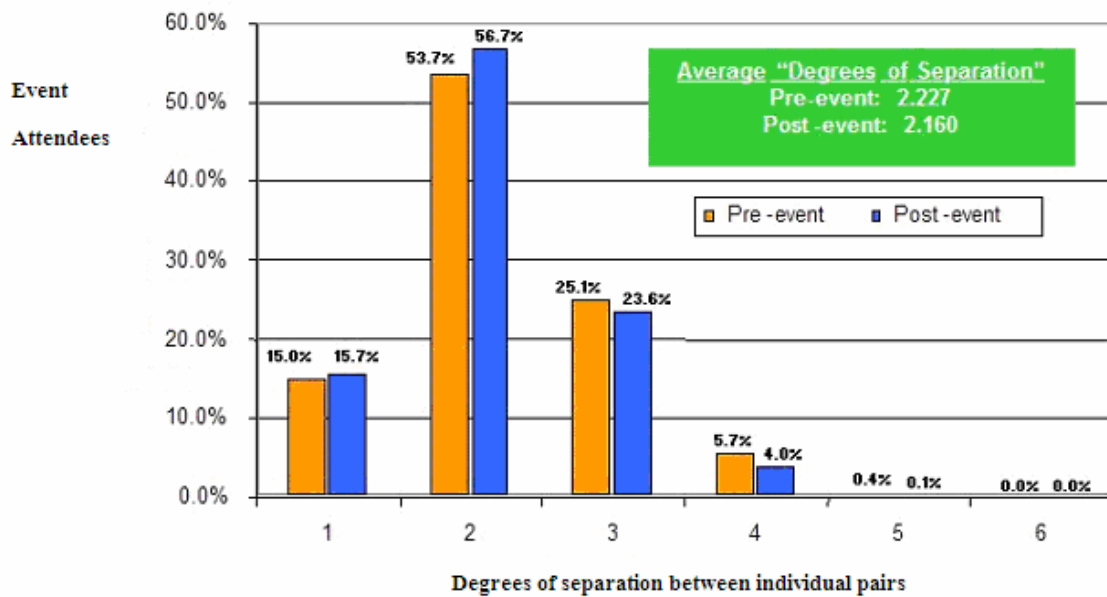
**Figure 5.** Graphical Indication of 52 new ties between 42 people participating in a mixer event

Figure 6 illustrates the reported follow-ups planned between pairs of people who saw each other at the mixer event, which includes both old and new links. The fact that there are follow-up meetings planned between pairs of people who represented new links indicates that the new relationships formed were of high quality. For example, at least one of the links formed resulted in a patent application (between nodes 92 and 45). Furthermore, this the individuals in this pair belong to two different organizations, and would probably not have met or made a creative connection had it not been for the professional networking

event organized by the WWN. This is consistent with data reported by Burt [6], who has shown that the diversity of people you know and especially having non-redundant links is strongly correlated with innovation. This theme is similar to the result of a study done at Raytheon that showed that people with the greatest diversity of links, i.e. links to people not shared with others in their group not only generated more innovative ideas but were also more likely to have those ideas adopted [7].



*Figure 6. Graphical illustration of reported follow-ups planned between pairs of people*



*Figure 7. Measured impact on “degrees of separation” by the mixer event.*

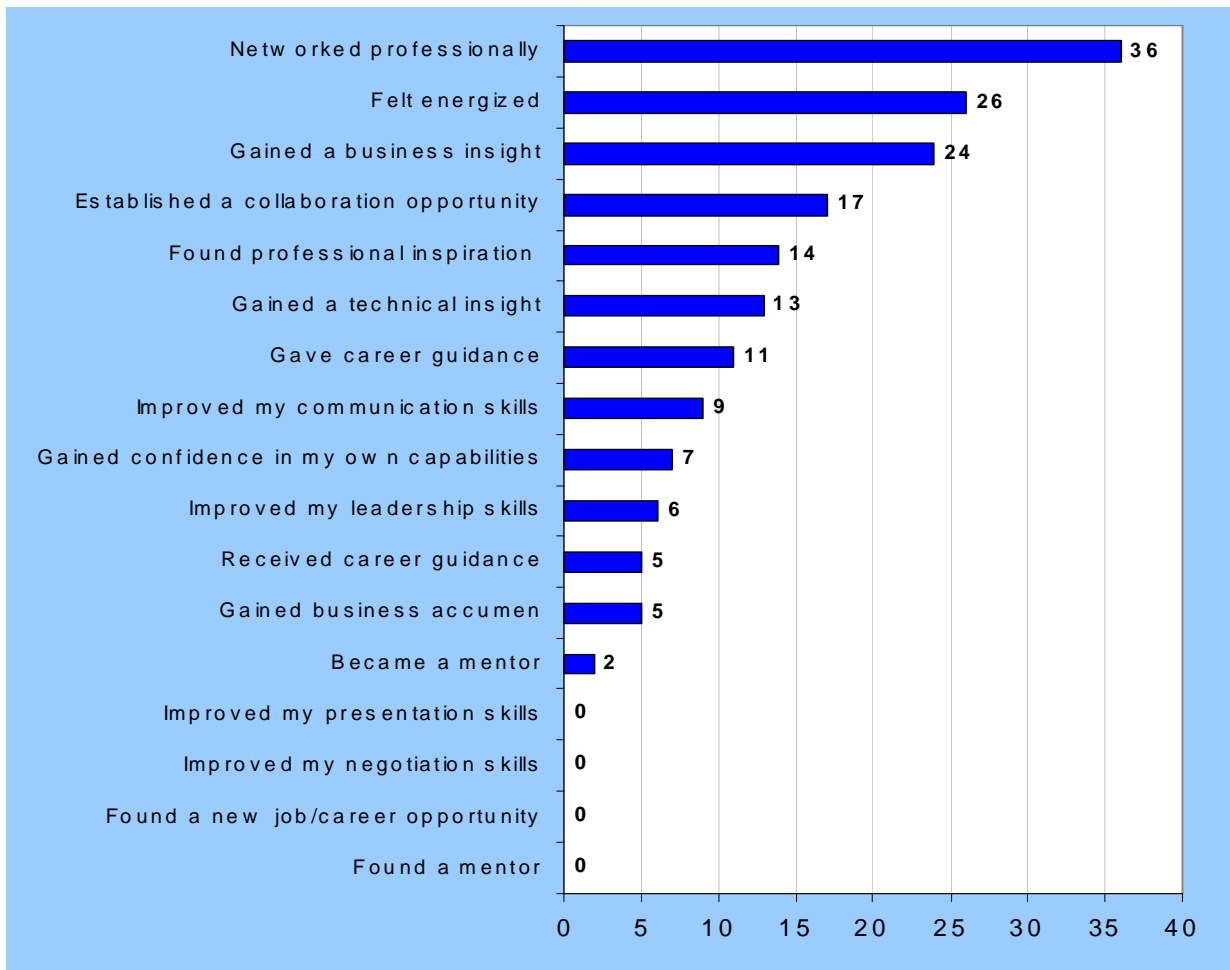
The summary of benefits observed through the examination of before and after social network models is highlighted in Table 2.

- Comparison of post-event and pre-event social networks revealed at least 52 new ties, involving 42 people
- Attendees who gained new contacts gained from 1 to 7 new links
- The network density increased from 13.19% to 14.03% for the network consisting of all survey actors (n=112)
- The network density increased from 18.08% to 21.23% for the network consisting of actors who: responded to both surveys and attended the mixer (n=58)
- The maximum “degrees of separation” between Mixer event attendees decreased by one. The average “degrees of separation” between pairs of attendees decreased as well. (See Figure 7.)
- Many planned follow-ups between pairs of individuals, with a high concentration of follow-ups for new links
- At least one new patent application involving a pair of individuals from two different divisions

*Table 2. Summary of observed networking benefits for “mixer” event.*

**5. Other Key Benefits of a Mixer Event**

In addition to creating new links, and increasing cohesion of the attendee network, the mixer had a number of other benefits uncovered via the follow-up survey of participants. In particular, participants were asked questions regarding their personal and professional development, such as ability of the event to provide career guidance and mentoring support, increase self-confidence and improve leadership. Figure 8 summarizes these benefits, based on responses from the follow-up survey. Note that responses were overwhelmingly positive, indicating a true success of this type of activity in providing a true technical and business impact. One of the most surprising results of this survey was that a large number of responders said, *nine months following the event*, that an important individual benefit they received from the mixer was that they felt energized.



*Figure 8. Summary of benefits indicated by “mixer” participants in the post-event surveys*

**5.2. Career and Professional Insights Guidance Opportunities,**

Very often, the view of professional/career enhancing meetings encompasses the structured top-down approach which, for example, pairs new hires with senior technical professionals. The problem with this formal opportunity is that people feel a great deal of pressure to make the connection. Similarly, such ideas are often promoted through participation at large, company-wide events. However, future mentees are often uncomfortable with the idea of finding the right person in the next hour. The mixer event represents a much more realistic opportunity for meeting a mentor or mentee. The intent of such a gathering is to provide a high value, low cost means of high quality networking. The diversity of attendees (culturally and organizationally), their strong interest in such an event, and strong support from other professional women provide a venue for successful mentoring and professional development activities.

According to the post-mixer event survey, 24 participants gained business insights, 14 gained technical insight, 17 found professional inspirations, and 2 actually were able to find a mentor. This extremely positive outcome of the meeting led the organizers to schedule this event as an annual event. The success of this networking activity is evidence that a successful career/personal opportunity does not always represent itself in the closest-to-work related environment, but that experience of folks from other divisions/groups/social circles may play an important role in enhancing and vitalize ones life.

Our experience shows that professional networking events such as our WWN mixer are not just events where participants circulate around and exchange their business cards. They can be valuable events where participants can build business relationships.

Cross-organizational collaborations develop new research projects and have the potential to result in a new products and processes. According to the post-WWN mixer survey, 17 participants indicated that the mixer may lead to collaborative activities relative to IBM's business.

## **6. Conclusion**

The mixer held promise for and ultimately led to new innovation and measurable business impact that would not otherwise have transpired. Intentional and informal "mixing" of individuals from different business units is easy and fun, and as demonstrated in this paper, provides measurable professional and personal benefits and opportunities to its participants. The Watson Women Network mixer event focused on the idea that the creation of informal connections between individuals can foster professional development in a supportive environment. The evidence presented suggests that this simple principle is very effective in creation and development of social networks, mentoring opportunities and provision of new means for personal and professional growth. REMEMBER: Opportunities often find their way to you through your professional network.

## **REFERENCES:**

- [1] Cathy Lasser. Discovering innovation. In IEEE International Conference on e-BusinessEngineering (ICEBE), 2006
- [2] [https://www.collaborationjam.com/get\\_started2006/index.shtml](https://www.collaborationjam.com/get_started2006/index.shtml)

- [3] Stanley Wasserman and Katherine Faust (1994). *Social Network Analysis, Methods and Application*. Cambridge University Press
- [4] Brian Uzzi and Shannon Dunlap (2005), *How to Build Your Network*, Harvard Business Review, December 2005, pp 53-60
- [5] Ray Reagans , Ezra W. Zuckerman, *Networks, Diversity, and Productivity: The Social Capital of Corporate R&D Teams*, *Organization Science*, v.12 n.4, p.502-517, July 2001
- [6] Ron Burt (2004), *Structural Holes and Good Ideas*, *American Journal of Sociology*. Vol 110, pp 349-399
- [7] Ron Burt (2005), *Brokerage and Closure: An Introduction to Social Capital*, Oxford University Press