



Zet Forward

Episode 1: Knowledge Management and Analytics with Dr. Jay Liebowitz

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Interviewer: Chelsea Barrett (00:02)

Hello and welcome to 'Zet Forward', a podcast celebrating authors and other individuals all who are involved with projects for the benefit of Seton Hall University and the world around us. My name is Chelsea Barrett, and I am the Business Librarian at the Walsh Library of Seton Hall University. Thank you for joining us today for the first official episode of this podcast. I am so proud and honored to welcome and introduce our guest for today, Dr. Jay Liebowitz, who is a visiting professor for the Department of Computing and Decision Sciences here at Seton Hall University. So welcome Dr. Liebowitz!

Interviewee: Dr. Liebowitz (0:40)

Thanks Chelsea.

Chelsea Barrett (0:42)

There are many things I can say about Professor Liebowitz but for the sake of time I will provide a short overview, though there are many more things to discuss and they are located on Dr. Liebowitz's Seton Hall profile which will be linked on our podcast website. Professor Liebowitz was the first Knowledge Management Officer at the NASA Goddard Space Flight Center, a distinguished Professor of Information Systems at the University of Maryland-Baltimore County, the Chair of Artificial Intelligence at the US Army War College and the Distinguished Chair of Applied Business and Finance at Harrisburg University of Science and Technology. He was also ranked 1 of the top 10 knowledge management researchers out of 11,000 worldwide and was ranked #2 in knowledge management strategy worldwide. And 1 of the initiatives he is well-known for at Seton Hall is his wildly successful distinguished lecture series in Business Analytics, which I myself have attended and learned so much from.

What a strong lead into the project we are going to be talking about today! Professor Liebowitz recently had a book published titled "A Research Agenda for Knowledge Management and Analytics". So, do you want to tell us a little bit about your project?

Dr. Liebowitz (02:05)

Yeah, sure. And again, thank you so much for hosting this and I'm thrilled to be the inaugural podcast speaker as part of your series. So yeah, a little about the book. It's called the "Research Agenda for Knowledge Management

and Analytics” and the driving force for putting a book together along these lines—actually there were probably 2 main reasons. The first was that unfortunately, both communities probably haven't been interacting with each other as well as they could, and so for those who may not be knowledgeable in this area when we talk about knowledge management, we refer to how do you best leverage knowledge internally and externally in organizations? And certainly in our data driven kind of data informed environment the analytics field has really been growing quite successfully, as we're trying to apply different data driven techniques to help in our decision-making. So there really are some synergies between the 2 areas—the 2 communities and the book is really focused on looking at what are some ways for both communities to better work together as we look kind of down the road over the next 3 to 5 years. So that was one driving force for putting together the book.

The second is that the publisher, which is Edward Elgar Publishers out of the UK, they have a research agenda book series and they asked me if I could put a book together on this topic and the series is really geared for doctoral students and junior faculty. Also, practitioners you know who are interested in the area, but certainly want to kind of advance this field of knowledge management and analytics. So those are the 2 main reasons for doing this and been very you know happy the hardbound book came out this past year in 2021 and I was just telling Chelsea that about 2 weeks ago I received the paperback version of the book so hopefully people will read it and enjoy it and maybe learn some new insights.

Chelsea Barrett (04:33)

Absolutely, and it's so interesting the topic and I was actually going to ask you what inspired you to pursue this project and you talked about, you know how they don't really communicate, these 2 areas, but it's so important. Like you said, you know data analytics are taking over in many areas and many subjects, so I'm really excited to read it and Dr. Liebowitz was nice enough to donate a copy to the library, so we are very excited to receive that. So, keep a lookout in our catalog for this wonderful book. Thank you so much Dr. Liebowitz. So, can you talk about some of the best resources that have helped you along with this research and with editing this book?

Dr. Liebowitz (05:20)

Yeah, and I just wanted to give a shout out also to our library at Seton Hall, because Chelsea and her colleagues have been wonderful in helping not only us as faculty, but our students in gaining a better understanding of not only these 2 areas of knowledge management and business analytics, but many areas and even how to apply some of the tools and techniques on some of the student projects and Capstone projects and other activities that you know we've been involved with. So, thank you Chelsea and your colleagues.

So, I think this field, well the 2 fields have some natural synergies and, for example, we're dealing with so many different varieties of data, so typically we say you know about 80% of data is unstructured and 20% is structured. And if you look at the what's called big data, everyone uses 4 V's, but they're actually, I've seen up to 7 V's, so you have the volume of data, the velocity of data, different variety of data, and the veracity, the accuracy of the data. And so you know, organizations are just bombarded and even us as individuals, particularly in this COVID time, you know we're being bombarded with data as well as information or misinformation or disinformation. And you know how do you handle all this? So, knowledge management could really be used as a way to help govern and manage some of the data in order for us to be able to be more adept at searchability and findability of trying to get what we need when we need it.

So, you asked about different resources that helped. So there are a number of professional societies that one can join that deal with these topics on the analytics side, the main professional societies called INFORMS, they're

based out of—right outside of Baltimore and Maryland, and they used to focus on operations, research, management science, and they rebranded themselves to really look at analytics, because that's what a lot of the you know, quantitative techniques from the operations research and management science fields can be applied now to business analytics. So, INFORMS is a wonderful professional society with many conferences and educational programs. They also have a – it's called the CAP. They have a certified analytics professional credentialing, and they have, you know, you can become a student member, so that's a nice resource really, for anyone, whether you're a student, a faculty member or practitioner—and it's worldwide. So, I've been able to make a number of connections with them. I've been involved with INFORMS over the many years. On the Knowledge Management side, there also have been a number of key organizations and societies in conferences. So, for example, every November there's the annual Knowledge Management World Conference typically held in Washington DC, and that conference is primarily for practitioners. They get probably about 1000 people, but there are also more academic conferences throughout the world looking at Knowledge Management. So there have been those in Europe, the European Conference on Knowledge Management certainly here in the states. There have been a number of related conferences. I'm also involved with the—what's called the International Conference on Knowledge Management, which has been held for about 18 years either in the US or abroad. In fact the next one will be in Germany in June, so there is plenty of, you know, material whether you check the Internet and do a little Googling or just check the conferences or these various societies that will help you become even more knowledgeable in these areas.

Chelsea Barrett (10:10)

That's wonderful and I think a lot of us, including myself did not know there were so many organizations and conferences going on, and knowledge management is so important, so I'm really grateful for all the work that you've done and all of the knowledge you're giving to us right now. So, thank you for that. And thank you for your kind words about the library. We're always so grateful. So is there anything you learned during your research that surprised you?

Dr. Liebowitz (10:38)

Yeah, so the book is actually an edited volume and I was fortunate to be able to bring in different perspectives of leading practitioners and educators from throughout the world because, you know, in different parts of the world, some of these areas are more advanced than others. So, I do some research—this is based on a prior Fulbright Award, in over the past I guess 6 or 7 years I've been looking at, how well do executives trust their intuition versus analytics, and you'll be surprised that there have been many studies. KPMG had a trust gap study, there was a study done by the University of Cambridge with colleagues in Australia looking at hedge fund traders and showing that they perform better using their intuition than through the data and analytics, and they did some biometrics work. So I've been working with colleagues from Canada, Poland, Italy, Germany, Turkey, Australia, the UK, looking at this area that I'm calling intuition-based decision-making. So one of the surprises for me was that even though if you look at all the work that's out there, most of the CEOs and C-level executives often rely on their intuition, even though there's plenty of data that's available. And the reason for that, well, there are a number of reasons. One is that maybe they can't trust their internal data quality in the organization. So that's always an issue, to make sure you know what's the single truth of the data? Is the data well cleansed? Can we trust the data that's given?

And then also there is an issue of what I call experiential learning, and this comes from the Knowledge Management side of my brain where you know we have learned if you've been in the field for many years,

whatever field you're in, whether it's medicine, law, library information science, whatever, overtime you will acquire through lessons learned, successes and failures. You will be able to learn different heuristics or shortcuts, different rules of thumb that might help you kind of prune your tree as you do your decision making. So the book in terms of surprises, it certainly confirmed that there hasn't been a lot of work in North America, in the US and Canada looking at this area of how does intuition factor into the analytics formula. So I always say that analytics plus intuition equals success, so you need both kind of skill sets and there are different ways to even enhance one's intuitive awareness, you know, as an executive, and there are many communities you know looking into this. There's mindfulness communities right—there are people looking at it from more of a neurological, perspective, certainly the cognitive psychology perspective. So it's.. I think it's one area that seems to be lacking when we talk about this field of analytics. Everyone is so data driven in that they may not be factoring in their experiential learning, kind of their intuitive judgments as much as they could. So Australia and the UK are probably the leaders in applying intuition and management, but every year at the Academy of Management meeting, usually in August—it's been going on for about 12 years now—there's a separate kind of 1 day symposium looking at how intuition is being used in the management domain. So I think that's an omitted area that I think it's worth looking at, particularly if you're doing work at the executive level. So there are a few more surprises too, but I think that was the main one that I saw surface from kind of scanning the work that's been done globally.

Chelsea Barrett (15:28)

That's wonderful and I'm surprised, so that's definitely a surprise. And I was going to ask you how you felt that this work and this book benefited the entire discipline of Knowledge Management and the world at large. You kind of touched on it, you know, talking about how you know people in C-level suites are using this information to actually go beyond just what the data says and incorporate intuition, which is something I didn't think about. So do you have any, you know intel on how you think this will benefit the world and maybe even the business field, which I think it would affect it in a very large way?

Dr. Liebowitz (16:11)

Yeah. You know, certainly the book is geared to looking maybe 3 to 5 years down the road, in terms of what kinds of research needs to be done to advance both fields and certainly I do some work in the artificial intelligence domain. I may not have much real intelligence, so I went to the AI route and you're seeing a lot of work being done in artificial intelligence and machine learning applied to both analytics and knowledge management. In fact, right now I'm working on a project, more of a knowledge management project for the United Nations, and they're interested in trying to find better ways worldwide so not only at their headquarters in New York, but also throughout the , well I think there are 194 countries in the world, but whatever you know are their main regional offices and country offices, but they want to find better ways of locating things that they need and to learn from others. And you can imagine in many large organizations, it's very hard to find what you need on a timely basis, and you know, oftentimes you might reinvent the wheel. So now there are a variety of even knowledge management, I call them ecosystem kind of tools—could be search engines or insight engines, it could be taxonomy management tools. Chelsea's smiling because some of these certainly relate, you know to the library and information science area.

You know there are content management systems, as you know and you know a variety of KM related—a tool set that could help organizations in terms of advancing you know what they know and hopefully to generate knowledge so you know when we look at the field of knowledge management, if you take a look at some of the studies done, there are 5 main reasons why KM knowledge management is being used. Number 1 by far is to

studies done, there are 3 main reasons why KM, knowledge management is being used. Number 1 by far is to increase innovation. So not only do you want to have better ways of capturing and sharing and applying knowledge, but the hope is that that integration could allow you to then generate new knowledge, and it could be in the form of new products or services, new processes, or ways of doing things. And that, can add great value to the organization. So certainly, increasing innovation is number 1. The other main reasons are organizations have looked toward KM to build the institutional memory of the firm so that, you know, let's say before Chelsea retires, even though you have a number of years ahead of you, well, you have a lot of key expertise that may not be well documented. And we'd like to find ways of making your tacit knowledge, the knowledge you have in your head, making it explicit so others can learn from your experiences, right? So certainly building you know, kind of best practices and lessons learned, good or bad could be very useful through knowledge management means, and then the other key reasons are to have a more adaptive and agile organization, and particularly at these times of the pandemic. Hope we get out of it at some point, you know, but certainly I thought the word of the year last year would have been pivot right? So you know, organizations have had to pivot over the past 2 years in order to be more adaptive and agile and to survive, and I think KM and analytics certainly you know, would be of great value. And then certainly trying to improve the organizational, internal and external effectiveness.

So KM for sure I think can add great value in analytics certainly will be a great compliment. So many organizations are using Tableau to do data visualization for their dashboarding. There are a variety of analytics tools out there that can add great value to take a look at how organizations can better perform. And so I think you know, those are some areas to think about in the future. Certainly for analytics we've done a lot of work on the descriptive side as well as the predictive side but we haven't moved as quickly into what's called prescriptive analytics, so when you bring in optimization techniques and some of you know the kind of the operations research methods perhaps to combine with the analytics area. And as I mentioned earlier, certainly AI machine learning will continue to evolve and I think those fields will bring you know new ways of thinking and inferring hidden patterns in relationships among the data as well as possibly looking for new linkages across unstructured data. So, I think those are some interesting kinds of research areas as we look forward.

Chelsea Barrett (22:15)

Wow, as you're talking, I'm getting all of these ideas on maybe writing an article or, you know, connecting knowledge management to so many different areas. This is so fascinating. So on a personal tip is there anything that you have read or listened to recently that inspired you? Maybe a podcast? Or maybe you read another work? Is there anything that you've done? Do you even have the spare time to do that? I know you are a busy man. Is there anything you want to share with the audience?

Dr. Liebowitz (22:52)

Yeah, so I do a lot of reading even outside, you know, the professional side. I'm reading Daniel Silva's latest book "The Cellist" and I just got—I'm a John Grisham fan so I read all of his books, the legal thrillers and I just got his new one yesterday called "The Judges List" so I just started to read that last night. So my view is it's always good to have an open mind. Uh, I'm also a sports enthusiast, so I was thinking of the playoff games this past week, and you probably know that Tampa Bay had lost a tight game. And they asked Tom Brady, who is of course their quarterback and they said right after the game 'So are you thinking of retiring now?'. You know, here he is—I think he's 44/45 and of course he's playing great, but he just lost a heartbreaker, you know, and didn't have a chance to win another Super Bowl. And so he said, 'Well, you know, right now I'm just thinking about this game that we just lost' and it kind of put things in perspective because for me, and there have been a few articles

actually written about this over the past week that relate to his comment, because the message is before you make a permanent decision, don't base it on a temporary emotion, right? So we all know we get an email and maybe it's something that you really object to or you really want to respond right away. And of course, you know if you do that, there might be some things worded not the best way, or most diplomatic way, perhaps that you may want, so you always want to sit back and wait a day or two before you react, so it kind of relates to this whole area of emotional intelligence. If you look at any of the research you know about managers or leaders, the number one quality for good leadership and good decision-making, is emotional intelligence and it's not only self-awareness and self-management, but it's also thinking of others and having that empathy. So, you know, I'm always trying to be aware of these, you know issues and how to improve myself as a person, let alone as a professional and so just some of you know, some of these kind of quick mantras or lessons to learn, if you will, have been useful for me. So, uh, I probably could think of some others right off the top of my head, but I'll probably stop there.

Chelsea Barrett (26:13)

That's perfect, and I think you touched on a lot of things that are being talked about, like emotional intelligence, like you said. I love your choice in novels and books and authors. I'm ecstatic about that. Uhm, so let's go back to knowledge management and do you have any common myths about research on knowledge management that you want to debunk?

Dr. Liebowitz (26:45)

Well, let's see. I guess the main one is that for many organizations, when they think of any new area whether it's you know, analytics or even knowledge management, they often think okay, this is a technology issue that, we just get you know—let's get Microsoft SharePoint and that will do knowledge man—you know we'll be doing knowledge management. So in the KM field, we kind of use the 80/20 rule, where okay maybe 20% of knowledge management is the technology side, right? You have to have the proper tools and technologies in place to enable the knowledge sharing to happen. But the other part, which is even more important, the other 80% is really the people, the culture, the process part. So on the people side, how do you continue to build and nurture a knowledge sharing culture right? Not everyone likes to share their knowledge because you might be giving up your competitive edge. Of course, as a professor, if I didn't believe in knowledge sharing then I probably wouldn't be that effective. I mean my goal is to have the students surpass the professor, surpass me. You know, in the same way, it's like as a parent you want the children to do better than the parent, and that's how society advances. So I think some people kind of overlook this, the people side—the knowledge. How do you build and nurture this knowledge sharing culture? And how do you provide the right recognition and reward structures to inhibit, you know, knowledge hoarding, right? So to promote knowledge sharing.

And then the other part is the process part right? We're all very busy, you know there are a million things we have to do or you know this is something else I have to do on top of a full plate. I probably won't get to it so. So you have to find ways to embed knowledge management processes and activities within the daily working lives of your employees. So for example, you had mentioned I was at NASA Goddard Space Flight Center and I was their knowledge management officer. And during that tenure throughout the 10 NASA centers, there was a mandate that every project team, no matter if you were developing a satellite or an instrument, or you know you're going to Mars like at JPL, Jet Propulsion Lab. You had to be able to capture lessons learned during every—at every stage of the project development lifecycle, as well as to show what value-added benefits did you derive from reviewing knowledge in the various knowledge repositories so you could learn from that. And there was actually a specific guidance that was sent out where every project team would be evaluated during the different design reviews you

know, looking at some of these factors. So the process part is so important, so capturing and applying lessons learned was just being part of the project management or risk management lifecycle for any project team at NASA. So the only myth is that I fear that many people think that the technology side is more important, but it's really the people and the culture and the process side where you get the greatest value out of knowledge management and not only knowledge management, I think you could look at any field. I mean you have to have the right change agents and the right change management processes in place. You know you can't, as they say, throw something over the wall and hope people will catch it, right? You know the Field of Dreams kind of thing, so you really need to have the right people, the right organizational structures, the right incentives in place to encourage people to share what they know and to promote that as your legacy. So I hope that's useful.

Chelsea Barrett (31:49)

Extremely useful, and it actually seems to tie into my next question. So I'm thinking of maybe students or even people who are professionals who are hearing your words and they're getting inspired. And they're thinking, oh my goodness, knowledge management is something I can tie into my work, you know? So, do you have any advice for early career professionals or people who want to integrate knowledge management into their fields? Do you have any advice for them in getting started?

Dr. Jay Liebowitz (32:22)

Yeah, so you know certainly at the university level, so even you know for us at Seton Hall, we have some courses that relate to knowledge management as well as analytics. In fact, as Chelsea might have highlighted we actually have now in the Stillman School of Business—we've had an MS in Business Analytics program since fall of 2019. And then this past fall we were able to get approval and that has started to have an MBA concentration in business analytics as well as a graduate certificate in Business Analytics and then in our sister school over in Arts and Sciences we also have a Masters in Data Science which is a little more computationally oriented—more kind of computer science focused. So there are many, many you know courses that you can take either at you know the various universities in your area or there are short, you know, courses online. I know even through the United Nations through, not that everyone would be able to take this, but I noticed that for their employees through their senior staff college they had—they have a fundamentals of knowledge management course. It's about a 4 month kind of self-engaging, you know online course that you can take on your own, so I would recommend you know, seeing what the universities have in your area and then you know, as I mentioned, there are different professional societies that offer programs and certifications to, you know, allow you to become more knowledgeable and then you know the conferences and speakers series. So for example every fall we have a monthly speaker series, Chelsea highlighted this—it's called the Fall Distinguished Executive Lecture series in analytics and we bring in VP's of analytics from different organizations to talk about some of the issues that many organizations are facing and how analytics could be applied. So there's quite a bit out there. I actually published the first handbook in knowledge management back in 1999, so this field has been around you know, for quite a while, at least the KM field. In analytics as well, uh, but I think analytics really started to take off in about 2012/2013, at least if you view some of the academic you know publications, but there's a lot out there.

Chelsea Barrett (35:27)

That's great. I'm loving this talk and I feel like we can talk to you all day. But I did want to ask you, do you have any new projects in the works that we should be on the lookout for? Because I'm already intrigued. I want to read your book, I want to read articles, I want to join societies. So, do you have any new projects in the works?

Dr. Liebowitz (35:54)

Yeah, so 2 projects in particular. Well, in terms of book projects one, and I wish I had copies here—I'm down in Florida now, so maybe whenever I get back up north I can locate some copies. So around December 14th, I had another book that came out called "Online Learning Analytics". So when you look at the field of analytics in education many people are saying you just don't derive the same value through online courses as you do through face to face or in person. And of course there are hybrid and blended learning you know courses as well. So I have done quite a bit of work in the area of learning analytics and I was fortunate—I was able to get about well I think 12 countries represented the top people in the field to contribute chapters looking at the whole area of learning analytics in a virtual or online environment and my thesis is that you actually can derive great value if you do it right through online engagement. You just have to know some of the nuances and certainly the whole field of analytics can provide great value so you could better understand what the student learner you know is actually, you know, learning through the course and you can make adjustments and even AI comes into play where you can personalize and customize the learning based upon how the student learner is progressing through the course. So I wanted to really, you know I thought hopefully it will be an important book. It's through Taylor and Francis and I wish all these publishers you know could do a great job with marketing the books, but hopefully people will hear about it, and it might be of interest.

The other project that I just submitted is—I have a book series, a new book series on Digital Transformation. It's called DX. I didn't make that up it's kind of the acronym. And the subtitle is 'Accelerating Organizational Intelligence'. So I lined up 9 volumes in that series. Some colleagues from Wharton, the Center for Creative Leadership they're looking at kind of human centered leadership issues as they relate to digital transformation for organizations—some colleagues from China and Canada. I wanted to do one in the healthcare area, so I have a colleague from Mayo Clinic—a colleague from Johns Hopkins. So anyway, I wanted to do a book in this series and I just finished it up and it's called "A Digital Transformation for the University of the Future". And you know in this environment over the past few years, universities—many universities have been struggling financially you know, because of COVID and beyond and so this book looks out about 5 years ahead to see what universities might need to do in order to survive and be successful in the coming years. And I'm fortunate Chelsea that 2 of our colleagues from Seton Hall have contributed. So we have our Provost, Dr. Katia Passerini, and then one of my colleagues in our department, KV, who's looking at the role of kind of analytics in a AI for the University of the future. So that will be out in June by World scientific publishing. They're headquartered in Singapore. They handle all of the Nobel laureates, dissemination of their speeches, so hopefully they'll get the word out.

Chelsea Barrett (40:27)

That is amazing. Oh my goodness and we are looking forward to first getting the December published book and getting the one in June. Thank you so much. So as we come to the close and I'm sure people will be very interested in knowing where they can find you online. So do you want to let us know?

Dr. Liebowitz (40:49)

Yeah, sure, so you can always go to the Seton Hall website, but my email is jay.liebowitz@shu.edu and it has, you know my contact information and bio on the website and I'm happy you know to help or follow up with anyone who has some questions or comments.

Chelsea Barrett (41:20)

Amazing thank you and Jay Liebowitz's profile will be on our podcast page just for, you know, your easy viewing pleasure but please, please get in contact if you have any further questions because as you can see it's very knowledgeable on KM. So, if you also want to hear more from our wonderful speaker, Dr. Liebowitz gave the opening keynote address for the annual Knowledge Management Conference which will be linked on our podcast website so. Thank you so much. Thank you, Professor Liebowitz, for joining us today and sharing so much of your story, your journey and your time and thank you for always being such a wonderful friend and colleague to the library. We wish you all the best and we hope to have you back soon, maybe in June. Thank you for listening to 'Zet Forward'. Please join us next time when we talk to another individual from the Seton Hall community about their work and how it benefits the world around us. Until we meet again. All the best and Hazard Zet Forward. There we go!

Dr. Liebowitz (42:36)

Thanks. Thanks Chelsea and stay well everyone and go Pirates!

Seton Hall University
400 South Orange Avenue
South Orange, NJ 07079
(973) 761-9000

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