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HOW TO DISRUPT UNEMPLOYMENT

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i4j chairs
vint cerf and david nordfors

CONTENTS

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How can innovation disrupt unemployment and create meaningful work for everyone? How can we create a strong middle class innovation economy? Consider this opportunity: Less than half of all people in the OECD countries are in the workforce. Only a third of them are engaged in their work. Less than a quarter of the US human capacity is creating value in the economy.

Imagine if innovative entrepreneurs could use technology to create jobs tailored to fit every person in the same way products and services can be tailored to match consumer tastes? What if this technology could match the innate abilities and passions of every individual with the most valuable opportunities in a long-tail economy? If we increased the workforce to 100 percent of the population—with people doing things they like—an oversimplified guess suggests we could quadruple GDP. That is a fifty trillion-dollar market in the US. But of course, it's much more complicated than that. It would be a complete transformation of the economy. What might such an innovation economy look like? What would it take for business, policy and education leaders to work together to make it happen?

THE DC TEASER: “HOW TO DISRUPT UNEMPLOYMENT”

by i4j Chairs Vint Cerf and David Nordfors

Some say all jobs may be automated. Perhaps next thing consumption will be automated, too, and then we are really in trouble. Seriously, something does not make sense with this way of thinking.

Instead, **innovation may disrupt unemployment.** With a new mindset that appreciates the value of people, innovation can drive unemployment ‘out of business’. Everyone can have a good job.

It’s not that we are innovating too much. The problem is that we are trying to run the new economy in the old way. The old way is about doing more of the same, more efficiently. It's about standardizing tasks, creating work manuals, and such things - many of them very tedious and non-rewarding. Well, that’s what machines are good at, so if this is only what the economy is about, yes - we will be losing more jobs all the time. And now we are worried, because we can't imagine what people can do instead. So that's what we are lacking: imagination.

It's obvious: **all people can create value for each other.** There are no useless people. We 'only' need an economy that lets people create value. People are more enabled than ever before. The smartphone is such an amazing tool that we are surprised every day by people doing new things we just didn't think of as something possible for people to do. Each unemployed person with a smartphone is in control of a super computer center packed with engineers, according to old norms. How can a sound economy of any sort avoid utilizing this amazing resource of empowered people? It’s not like there are too few problems for people to solve or that people stopped wanting more out of life. How about fixing the climate, eradicating disease and stopping wars, to start with? There are an infinite number of new things to do.

If we become as innovative in creating good jobs as we are in creating innovative products and services, then the innovation economy is sustainable. Today there is a product or service being developed for every possible need and desire.

Can the economy develop valuable jobs for every person, letting them do something that fits them like a tailored suit, creating the highest possible value and satisfaction for everyone involved? Then there will be an infinite number of job possibilities for a limited amount of people. People will be the scarce resource, not jobs. Imagine instead of getting a job because you can do something that other people (or machines) can do, you get a job because you are special in a way that creates real value for other people. An attractive aim for the innovation economy, we think.

What could this look like? Imagine starting a company that recruits you to their service, let's say it's called Jobly, just to give it a name. With smart technology, Jobly scans your skills, your talents, your passions, your experiences, your values, your social network, and so on. Joibly finds ways of testing the market for things you can do. Perhaps you say "I would like to paint pictures, but I don't know how to earn money on it." Well, there is a fair chance among all the billions of people on the planet there are some people who are willing to pay you. Perhaps you try that for a few weeks, then you try something else, until you decide to settle for something that feels really meaningful that you do together with people you work well with. Finding the right job is a bit like finding the right partner, isn't it? Now, if Jobly takes a commission on what you earn, they have the incentive to make you as valuable as possible. Jobly will help you find the right courses so that you will earn better, increasing what they earn. Jobly may offer you health benefits, too, because if they have a few hundred million users, they can spread the risk —they will be your health insurance, too. You are the service they offer to their customers who buy work in order to create value. Jobly would be disrupting unemployment, tailoring jobs for the so called "unemployable." It's quite often that people carrying that label are among the best people we know, the ones that make us feel that something is seriously wrong with the labor market today. The ones that are amazing, only that they don't fit the slots, so sorry, too bad.

A business model like this one is good for both the micro and the macroeconomy. It is for-profit driven, maximizes the value of people and minimizes the cost of tasks. It distributes wealth, creating happier workers and wealthier customers. It seeks and creates diversification, enabling people in society to do as many different things as possible together, thereby strengthening the ability of society and economy to deal with all types of challenges. It is a model for nurturing a middle class society in the innovation economy.

The value proposition is attractive. Think about it, **only a fraction of all human capacity is being used today**. So many people hate their jobs, The market size for disrupting unemployment is the difference between the value created this way today and the value created by all living people, fitted with tailored jobs they are passionate about, giving one hundred percent of their capacity. This might be the greatest business opportunity ever.

So what about automation killing jobs, then? Innovation is actually a very good thing in the economy we have described, because it frees up people so that they can do other things. But it has to be combined with innovation in tools, making people able to do new things that they could NOT do before. Smartphones are great. So is software for creativity and productivity.

People with disabilities, or who have suffered severe social challenges or who have been ill, don't have an easy time on the job market. But with the right tools they can be just as attractive as anyone else. They often have special skills that people with less challenging lives lack which can make them even more valuable. You won't find these things in the job descriptions of listed jobs.

Or look at those who are unique in other, very special ways, for example those who say they can see auras around people. It's not a recognized skill. A lot of scientists and other presumably rational people will say they are fakes. They are often into healing or alternative medicine which isn't accepted by the health care systems. Insurance won't cover it.

You won't find a single job description saying "we are looking for people who can see auras." There isn't a big market for aura healers. In 2012 researchers found a possible

explanation to seeing auras. It's a condition called "synesthesia," crossed wires between the senses. There are people who see colors when they hear music, often excellent musicians, such as Tori Amos or Leonard Cohen. Research suggests that people who see auras have 'emotional synesthesia,' their eyes see an augmented reality, colored by their feelings. This is a very valuable gift In a world where so many people are out of touch with themselves. People with emotional synesthesia will often be better at seeing when people are troubled, or spot when someone is lying, because they are emotional seismographs. They can excel in anything that requires gut feeling, which is quite a lot. They can be excellent neuropsychologists, work with improving human-computer interaction, or work with making video conferencing technology more efficient.

Almost no one knows about the 2012 research paper. Why should they? There is no incentive. Synesthesia is a very unusual gift and it's not like aura healers are important for the economy today. You won't see any job descriptions talking about it. This is a type of value that a company like Jobly can cultivate. Their intelligent system will be following the research and relevant discussions. They will know if you are a healer, because it's obvious from your emails. They will notify you, saying something like "you can be very good at reading people, check out this 2012 paper and these other sources if you want to know more." Jobly might go on asking "are you interested in working with something like building a new educational system in country X?" because it turns out that country X, a place you like going to, is working on an anti-corruption program and is restructuring their educational system. They need people who are empathetic and can spot honest people that can be put to work with coaching kids. You already know people in country X that are involved in the project, it's only you aren't aware of it. They aren't aware that you might solve their problem, and they definitely don't know the 2012 research paper. Even if they know you are a healer, they won't make the connection to their project. Jobly will not tell you all it knows, it needs to keep discretion, but links can be made in each case. Let's say you are thrilled by the idea of spending some time in country X doing good work, and you are pretty excited about the 2012 paper which explained a bit more you who you are at the same time as suggesting how you might create value with it. So Jobly now gets in touch with your friends in country X, the ones working with the education system, presents them with the idea that people with emotional synesthesia might be relevant for building a corruption-free system. If they

say this is something they would like to look into, Jobly lets you know, and then its up to you to get in touch. Jobly will let you know that some of your contacts might be good entry points. If you decide to go for a project together, Jobly will give you all the administrative tools you need to fix visas, taxes and so on. And 20% of the money goes to Jobly, for reinvestment in continued refinement of job and talent mining.

How big is the potential market for job innovation startups? Well, to start with, there is $100 billion in cash spent each year on unemployment insurance. Perhaps a part of that money can be used as incentive for job seekers and companies like Jobly to get going putting people's most valuable talents into use.

But unemployment not only costs tax dollars. That's the smallest part of it. Human capacity is probably the world's most underutilized resource, the worlds largest potential market. Think about it: In an average Western country, only about half of all people are in the workforce. About a tenth of those are officially out of work. So there might be a doubling of GDP already there.

Next, consider this joke: A visitor is being shown around a large workplace. He asks "Who many people are working here?" His host answers "About fifty percent." We all know it's true. There is perhaps another doubling of GDP just there. The market for disrupting unemployment might, in principle, quadruple the GDP. Can we even imagine a larger market opportunity?

To be honest, we must also not forget: **not all of the work we depend on is paid work**. It's a lot, spanning from being a good parent to community work, engaging in democracy, or developing Linux and Wikipedia. We DON'T even want this to be paid work. So disrupting unemployment means more than giving people paid jobs. It is about how we create wealth and well-being for everyone.

THE PARIS TEASER: INNOVATION FOR JOBS ECONOMICS

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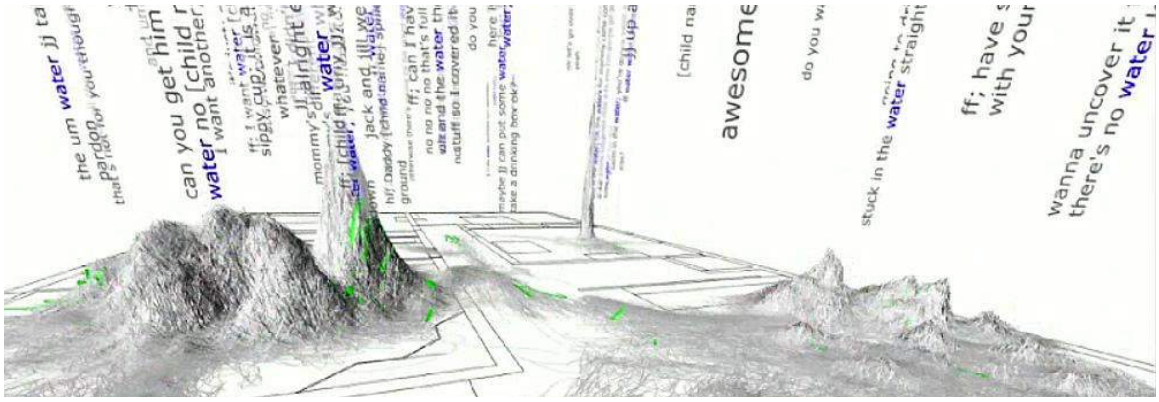
Governments need policies combining innovation and jobs, but it's challenging to spend funds from employment budgets on innovation. Finance ministries want to know "when" and "how" the jobs will be created. Today, there are few models for predicting that. For all we know, we could be spending employment support money on innovation that kills jobs. Then there is a language issue. Labor and innovation economists publish in different journals and don't go to the same conferences. Innovation economists are into micro economy while labor economists are into macro economy.

Traditional economics often cannot reflect dynamic innovation. For example, old economic models assume that individuals and companies are motivated primarily by profit and can't really explain innovation by collaborative, non-profit efforts, such as open source software communities or the volunteer effort that has made Wikipedia. The "sharing economy" and other new economic paradigms are emerging fast and economists need new techniques and data in order to track and understand them. New innovations, such as smartphones, have enabled benefits that no economic model could have predicted. While new Internet and smartphone apps can be adopted by tens of millions of users in weeks or months, it often takes governments years to adapt economic models and policies to new realities.

So innovation disrupts economical models as much as it disrupts jobs. Tax money might perpetuate rather than solve problems because governments use economics models that no longer work. The result is an insecure middle class and distrust in government and democracy. These problems are on governments' tables, not companies'. But few governments can fix them without public-private collaboration and everybody has an interest in getting them fixed.



Unemployment is on everybody's mind after the financial crisis. Youth - the best educated generation ever - face an unemployment rate that is two-to-four times that of adults. In many countries, one in two working-age women is not employed despite being often more educated than their male counterparts. Many women with jobs are under-employed because they can't find enough paid work. In the OECD countries, fewer than half of all people are in the workforce. In the US, only one-third of all employed are actively engaged in their work, according to Gallup. Half of them are not engaged and one-fifth are actively disengaged.

The good news, then, is that the vast majority of human capacity is still an untapped resource. Most people in the world are waiting to create wealth and well-being with all their hearts. If less than half of all people today are creating wealth at less than half of their capacity, half-heartedly, it suggests that 'disrupting unemployment' can quadruple the global GDP. The reality is of course much more complex, but even a fraction of that is an enormous market for entrepreneurial innovators and their investors.

Our smartphones open up a new world of value creation. Big data and smart algorithms can match people and opportunities in new ways. Education and jobs can be tailored to fit individuals on a mass scale. If we can create jobs as effectively as products and services, will anyone ever be without a job? There is no lack of things to do in the world. Consider abolishing poverty, eradicating disease and ending violence to start with.

For this to happen, both public policy and private enterprise must innovate together. Which types of public-private collaborations can make things happen? What tools can economists offer?

The first of OECD's "new generation" of multidisciplinary projects was to develop an "Innovation Strategy." Delivered in 2010 to Ministers meeting at the OECD, it proposed a "whole of government" approach and better integrating and elevating "innovation policy" as complementary tool to labor, trade and competition policy. At the 2014 Ministerial, the OECD has been asked to revisit this for various reasons, including the impact of the recession and the new modes enabled by ICT. Behind this is the constant concern about jobs.

THE DISCUSSION

The Challenges are Opportunities

First, the big opportunity: All people can create value. We ‘only’ need an economy that makes it happen.

The labor market is broken, but it can be fixed. Every challenge is an opportunity. When this was written, public discussion had woken up to the challenges. It will soon, hopefully, also wake up to the opportunity.

Fortunately, an increasing number of entrepreneurs are seeing opportunities in innovation for jobs, education and training. This emerging innovation-for-jobs ecosystem needs to be made conscious about its own existence. Stakeholders need to develop a common narrative, vision and purpose. This has always been the case with innovation ecosystems, for example semiconductors, personal computers, Internet companies, social media, cleantech and so on.

Man vs. Machine

- Automation is killing jobs at a higher rate. Some economists believe that nearly all jobs can and will be automated.
- Internet of Things will disrupt many services, such as healthcare. Smart sensors and actuators can replace the need for many visits to the clinic.

Old Silos vs New Realities: Power is Vertical. Potential is Horizontal.

- Institutions: The innovation economy is taking off. The educational and employment systems are lagging.
- Governance: Labor economics and innovation economics are different silos, making it very difficult to formulate innovation for jobs policies. Governments are reluctant to spend employment budgets on innovation. Finance ministries want to know “when” and “how” jobs will be created. There are no accepted macroeconomic models for it.
- Economics: There is no language for innovation for jobs among economists. Labor and innovation economists publish in different journals and don’t go to the same conferences. Innovation economists are into micro economy while labor economists are into macro economy.
- Journalism: Journalists covering labor markets rarely cover innovation, and vice-versa. Verticals in politics and journalism reinforce each other.
- Education: Many of the needed skills are not taught. Many of the taught skills are no longer needed. Teachers are trained to be specialists. Multidiscipinary project work does not fit the classroom system.
- Recruiting: Managers want to hire people who can work across disciplines and stakeholder groups, but standard employment processes are designed to find people who ‘fit the slot.’

Middle Class

- The OECD countries are in a “middle class squeeze.” People are getting pushed out of the middle class. Since the 1980s, wage gaps have widened in a large majority of OECD countries, even during job growth.
- Meanwhile, the global middle class is growing quickly in Asia, Latin America and Africa.

Demography

- The world population is growing rapidly, but nearly every second person lives in a country where the population is shrinking: China, Brazil, Europe and Japan.
- Overall, the world population is aging, but it is aging at a faster rate in wealthier nations due healthier and longer lives and declining birth rates.
- All mature economies have aging populations. Labor markets are growing too slowly to meet future challenges.

Human Resources

- Youth in OECD countries are the most well-educated generation ever, but they still face an unemployment rate two-to-four times that of adults despite the growing number of people aging out of the workforce.
- Long-term unemployment is on the rise. Once unemployed for more than a year, people are considered nearly unemployable.
- Paradox: With modern tools like smartphones, all people of all ages can create value. But in order to get a good professional career, people are discouraged from starting to work before they have finished college.
- In the world’s leading economies, people are considered most employable between their twenties and forties, but today, people will remain able and healthy into their seventies, and are expected to live into their nineties.

New Economics for the New Networked World

Innovation disrupts economical models as much as it disrupts jobs. Action might perpetuate, rather than solve, problems because governments and business leaders use economics models that no longer work.

Here are excerpts from "New Economics for the New Networked World" organized by IIIJ at the Internet Governance Forum IGF in September 2014:

- Business informatics: Internet information is now a part of decision making. Big data and open data change enterprise decision-making models.
    - Integration challenges: enterprise taxonomy, portal intranet database integration, data fusion and linking for knowledge base
    - Linking open data provides the following benefits: open standards and vocabularies, search and semantic content extraction, lightweight data integration and several research projects
- We still don't have clear models for profit sharing, cloud-based projects because the transactions have the transnational characteristics of the Internet.
- Open government data is reliable, and enables the creation of new businesses that are quickly developing.
- Businesses may be quicker than governments in adopting new economics tools, which can effect the split between applied micro- and macroeconomics.
- There is much worse access to data about the Networked Economy, for example, app development for cell phones, than there is for the traditional Industrial Economy.
    - This can be critical since we need to understand what happens when small organizations in the Networked Economy disrupt sectors in the traditional Industrial Economy. One example is WhatsApp, a company with 300 employees acquired by Facebook for 19 billion dollars. It disrupted the whole segment of the telecom industry, which employsmany people. We need metrics that convey the winner-take-all aspect of the Networked Economy that we haven't used in manufacturing and other areas where there's some equality-inequality within the company, but still a decent baseline. In the Networked Economy, we don't know where the bottom is and if anyone is making any profits.

    - An interimistic indicator for the Networked Economy can be job creation, but something more substantial is needed in the long run.
- A lot of measurable traditional business is disintermediated by Internet businesses that we don't know how to measure.
    - It's difficult to measure the full impact of the Internet economy on GDP growth. There is an Internet paradox: computers are visible everywhere except in productivity statistics.
    - Macro economists need numbers that show the link between policies and outcomes. Such numbers can be constructed by research. One example, the OECD collected data on which countries' websites were hosted, and were able to link that to the ease of doing business in those countries.
- The digital trace from people's cell phone usage, e.g. calling patterns, offers a wealth of data and possibilities for constructing new metrics and models.
    - This source of information might replace surveys over time.
    - This brings up issues of property rights, who owns the data? Who can sell the data that is co-generated, at best, by users and network operators? It is fundamentally changing the factors of production in addition to land, labour and capital, and how we quantify that and its value are going to be challenges.
    - Cell phone providers are sitting on a lot of data and are beginning to do business with it.
- Telecom regulation becomes important for the development of economics when the telecom providers sit on massive amounts of data of interest to economists.
- Economics is almost discrediting itself, because we are seeing the same problem addressed by different economists coming up with very different results. And the reason you can pick so many different models in this digital economy is because there are so many different things that aren't really right about the classic economic models.
    - For example, a lot of classic economic models assume you're at equilibrium. Yet we're talking about disruptive technologies that, in many cases, are cutting costs by 50 percent a year.
    - Traditional economics assumes individuals are motivated by making money or saving money. But with social media, we're finding that those

economics don't explain what's going on. People are spending a huge amount of time just because they get psychic rewards or because they're part of a team on a game or because they like to be part of a community. New economic models need to take into account broader psychological aspects of reward.

- National statistics organizations need new roles in the new Networked Economy.
- Much of the data of emerging importance is controlled by private big data companies, such as Google or Facebook. It is of growing interest to governments to access that data for economics, but the companies may not want to share the data.

A Good Job By Any Other Name

When people talk about the labor market, they often use the term “job” as a synonym for “employment.” The word “job” can have many different meanings.

Here, we define a “good job” as what people mean when they say “I need a good job.” Someone with a good job can pay the rent and raise kids without having to worry all the time. Anything that delivers this—it doesn’t have to be employment—is a “good job” for the purposes of this report. Security is important for most people. We don’t want a Prozac economy where people must medicate in order to compete against others who are medicating to handle pressure. Building medication into the system will not lead to a sustainable middle class innovation economy, which must be the goal.

Until now, many policies that provide security for people, such as a pension, health insurance and so on, have been connected to employment. Abandoning this model comes at a high cost for the middle class when there are no obvious alternatives. But full-time employment might become a recipe for full-time insecurity, and we must be prepared.

The average lifespan of an S&P 500 company has shrunk by 50 years over the past one hundred years, from 67 years in the 1920s to 15 years today. Where full-time employment once meant security, it may soon mean putting all of your eggs in the same

basket. People must now switch jobs at the right time or have diverse sources of income —such as having their own business or freelancing—to spread the risk.

According to Gallup, two of three Americans 18 or older are in the labor force today. Two of three of these workers are full-time employees and one of 10 are self-employed. One of three are freelancers, according to a national study published by Elance-Odesk.

So a "job" can be many things: full-time employment, self-employment, freelancing or a mix of these. Whatever makes people feel engaged and appreciated, enables them to pay their bills and makes it possible for them to raise kids without having to worry all the time is a "good job."

The Future of Jobs and Labor Markets

First-generation online employment services placed job listings on the web. The next added tools for job seekers and employers to upload documents, search using keywords and so on. The most recent offerings have added social media, like LinkedIn, for example. Job listings have become more accessible and information technology is making it easier to apply for jobs. A side effect is that many jobs will get many more applicants and each applicant will be applying for more jobs. Screening is becoming automated, but these methods don't necessarily select the best candidates for interviews.

Services for part-time freelance work are on the rise. Just like eBay opened a market for people and small businesses to sell things, new digital platforms make it easy to buy and sell tasks. Uber is disrupting the taxi business, allowing people to be taxi owners and drivers part-time. AirBnB is disrupting the hospitality business by letting people host travelers in their homes. Elance Odesk has an online market for engaging freelancers, managing work flows and paying for work.

There are also services supporting entrepreneurship. Crowdfunding platforms like Indiegogo and Kickstarter enable people to start projects in any field. Services like Quickbooks manage finances for entrepreneurs and the self-employed.

Many of the services above are often best for people who already have good prospects for getting a good job. Other services include job training for those lacking formal skills. For example, SamaUSA and the Wadhwani Foundation are developing blended education models for bringing people out of poverty that mix online education with on-site training at partner sites.

What is missing in order to disrupt both the labor market and unemployment are services that will offer the vast majority of people a "good job." Such services may need to see hidden qualities in people and hidden opportunities that can make the best use of them.

Jobly sees beyond job listings and certified skills. It focuses on what people are able to do, not what they've done in the past.

What problems could Jobly be designed to solve for job seekers and job providers? Which existing technologies and solutions can be part of Jobly? What public policies might enable it to deliver? What's in it for business? What makes this interesting enough for stakeholders and investors?

How does a Jobly-driven labor market change life for people? Communities? Society at large? What new trends might it enable in security, healthcare, education?

Does it affect collective decision making, i.e. democracy etc.? Which types of analytics and steering tools will be developed? What will the future economics look like?

What about unintended consequences? Which catastrophic risks may Jobly give rise to, and how might we manage them? Can we build the Jobly economy to avoid triggering catastrophes?

The Future of Matching People and Jobs

Imagine that Jobly has modules that help in various ways to match people and jobs. What can these modules be? And which methods can be constructive?

Methods

- **Big Data analytics:** Helps in quickly making sense of the outside world and multiple contexts.
- **Personal Big Data analytics:** Shows people patterns in their own corpus of email, social media, browsing history, health and well-being data to help them understand Which of their experiences, interests, passions, talents, contacts are important in different contexts.
- **Social network analytics** Understands people's skills, interests and the importance of various topics in a discourse. Sees pathways toward a goal.
- **Artificial intelligence** Search, adaptation, automation, language processing, etc. (e.g. Google),
- **Collective intelligence** Crowdsourcing (e.g. wikipedia), crowdfunding (e.g. Indiegogo), networking (e.g. Facebook and LinkedIn)
- **Gamification**: Turns work and education into games.

Modules for Strengthening People

- **Strengths finder** Helps people discover their unique combination of strengths. Today this can be done by survey, for example the Clifton Strengthsfinder.
- **Skills training and education** Cultivates identified strengths, for example Moocs like Coursera for people with education or SamaUSA for people without.
- **Passion finder** Helps people discover what they really want to do. Career life can kill people's natural ability to seek to do what makes them feel well. Scalable methods being developed by for example the Passion Company (startup).
- **Self efficacy developer** Cultivates people's trust in their own abilities. Often a basic "skill" that needs to be developed.
- **Empathy and values reward and support** Helps people maintain empathy and good values in rewarding ways. Empathy and good values are increasingly important in a creative economy undergoing constant change.

- **Lifestyle planner** Helps people to plan their time and set their priorities for greater stability and predictability in their lives.
- **Narrative coach** Narratives might become more important than CVs. Job skills come and go, but the character of individuals and the chemistry between people in teams remain. People who can create narratives about themselves and their interests are better off in a networking economy. Storytelling may also increase insight, self efficacy and engagement.
- **Mentor matching** Offers a meeting place that pairs people with mentors. For example Pave.com is developing a market for mentors.
- **Social meeting places** Peer support
- **Learning and Maker venues** Converts empty buildings into public centers with resources including maker tools, computer labs, online classes, networks and shops for people to create things (Tech Shop) and sell the in the marketplace (Etsy).

Modules for finding Opportunities

- **Career profiler** Shows the present state of careers: required skills and commitments, in-demand skills, career paths, salaries, available jobs, demographics and satisfaction rates among professionals. Balloon.com offers some of this today.
- **"Career Concierge"** Recommends jobs, Amazon style. If the user likes one job, Jobly learns and suggests other jobs the user might like.
- **Volunteering** Many things of value to people and society can not be priced or lack business models. Not seldom, people are more inspired by work that is not enumerated. Products and services provided by volunteers will sometimes become commercial alternatives, like the Firefox browser, the Linux operating system and Wikipedia.

Modules for Matching People and Opportunities

- **'Dating' service** Entrepreneurs and companies often search for people that have skills, talents and personalities that align with a team and a mission, rather than a career title.

- **Skills translator** Helps translate experience from one context to another so job seekers and hiring managers or individuals can bridge differences in vocabulary. Hiring managers struggle with this issue and end up hiring the wrong people, or overlooking great candidates. A translator could help organizations understand a person's skills in terms that are recognizableand relevant and help people see how their skills can be applied in a new context. For example, street smarts are as important as book smarts. Someone from the streets has the skills to think outside the box on a regular basis in order to survive. The same skills can be used in entrepreneurship. A college student who majored in psychology might be perfect for the marketing field, an aura healer could find herself a position in a Human Resources department or a hardworking bartender with the ability to teach himself new skills may become a hardware engineer—and be better at it than an applicant with credentials in the field.
- **Virtual world matching** Provides a safe environment for prospective employees to experience company culture, make mistakes and asess fit as part of a team. It also encourages new emphatic social behaviors.
- **Merits extractor** Points to personal data that indicate skills, experiences, talents and passions that can match a specific job and uses the social graph to suggest contacts who might be helpful as references or advisors.

Other Services

- **Company starter** Makes it easy for entrepreneurs to start businesses with little overhead cost. This is already happening with open source software, Google's free product suite (Docs, Spreadsheets), free conference call services, affordable website builders, mechanical turks, microtask (Fiverr.com) and business mentoring (Clarity.fm, Score.org).

The Future of Economics and Policy

Economics and Analytics

- **New economics for the networked world** Measuring the economy in real time and identifying new trends and clusters without making assumptions. Creating new indices for measuring prosperity and economic health that can outcompete GDP as a key macroeconomic index:
    - Connectedness
    - Data flows across international borders.
    - Wellbeing and happiness

Create metrics for articulating the value of volunteer and collaborative work (e.g. Wikipedia or Linux). This has been discussed at for example the Internet Governance Forum IGF 2014.

- **Narrative analysis** Studying what people are talking (a more robust form of sentiment analysis, for example) about as a cmplement to the number-centric analytics that dominates today. There are enormous amounts of language available to be analyzed, including websites, Google News, Twitter, Facebook and so on.

Some Policy Fields

- **Innovation for jobs** People receive insurance benefits when they get laid off from work and, often, are not using this time to develop skills or explore their interests. Provide greater incentives and resources for job seekers to discover their talents instead of trying to compete with oversubscribed job openings. Use a percentage of unemployment insurance budgets to fund job startups, similar to the SBIR program, or match private capital in venture funds investing in innovation for jobs, similar to the Israeli government's Yozma-program that bootstrapped the Israeli VC industry. Merge labor, technology and education policies.
- **Baseline security** Reduce risk for freelancers and the self-employed. Workers need regulation, an intermediary or self-insurance, including health services and education not only for themselves, but also for their children. The Danish 'Flexicurity' concept proposes that people with guaranteed baseline security will be less fearful about switching jobs, making the labor force more flexible and more aligned with the requirements of the innovation economy.
- **Empathy and basic values** Empathy must be a fundamental quality in societies in constant flux. In a versatile innovation economy, very small groups of people can create enormous value or cause enormous damage. The more empowered people become, the more important empathy will become.
- **Malicious practices** These must be identified and addressed quickly. For example, Jobly can help former drug dealers translate experience into legitimate careers, but it can also be used to recruit people to criminal activity.
- **Public statistics/economics** Future good governance will need access to statistics and data that is not controlled by national statistics organizations but by private

companies in charge of big data. This might not be trivial, because government might want access to data in order to improve public services, shrinking the market for companies that hold the data.

- **Public perception** We need to change the way we view job seekers. Culturally, they are viewed as losers who have fallen out of the job force because of under performance. Instead, job transitions should be reframed as normal and even positive opportunties to discover new talents. A person who has had four jobs is more resilient and adaptable than someone who has been in the same job for 10 years. Public perception and narrative matters.

Some Open Standards and Services Provided by Third Parties

- **Portable reputation** Lets employees carry reputations from one marketplace to another so they can maximize earnings instead of starting from scratch every time they enter a new marketplace.
- **Skills certification** Offers proof that a worker's skills are authentic by allowing relevant facts to be registered, including education and employment history, etc. Imagine a "Carfax" service for jobs, or "Jobfax."

Links

- i4j DC web page
- i4j DC provocation by David Nordfors & Vint Cerf: "How to disrupt unemployment" / Jobly scenario
- i4j home page
- i4j partnership info

Participants: i4j DC + i4j Paris

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Debra Anderson, CEO & Founder, Culture Shock LLC
Philip Auerswald, Founding Board Chair, National Center for Entrepreneurship and Innovation
Jared Bernstein, Senior Fellow, The Center on Budget and Policy Priorities
Jenny Bilfield, President & CEO, Washington Performing Arts
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Daniel Yohannes, Ambassador to the OECD, USA (i4j Paris host)
John Zysman, Professor, Berkeley (University of California, Berkeley)

Panelists: New Economics for the New Networked World [CB]

Internet Governance Forum IGF 2014

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Michael R. Nelson, Adjunct Professor, Georgetown University
Helani Galpaya, CEO, LIRNEasia
Rudolf van der Berg, Policy Analyst, OECD
Svetlana Maltseva, Acting Dean, National Research University Higher School of Economics Faculty of Business Informatics
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Michael Kende, Chief Economist, Internet Society
Roslyn Layton, Researcher, Aalborg University Department of Electronic Systems

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THE i4j INNOVATION FOR JOBS SUMMIT

"DISRUPTING UNEMPLOYMENT"

INNOVATION *FOR* JOBS VS. INNOVATION *OR* JOBS

In the innovation economy growth is about doing new things instead of just doing more of the same. Power is vertical but potential is horizontal. i4j offers leaders a multi disciplinary multi stakeholder network, bridging silos and exploring new encounters.

INNOVATION, EDUCATION AND JOBS ARE SLIDING APART

- EVER MORE JOBS ARE CHANGED BY INNOVATION OR DESTROYED BY AUTOMATION
- EMPLOYMENT AND EDUCATION SYSTEMS ARE LAGGING BEHIND
- SHORTAGE OF SKILLED LABOR **AND** LONG TERM UNEMPLOYMENT ARE BOTH GROWING

THERE IS A HUGE, GROWING UNTAPPED RESOURCE OF HUMAN CAPITAL

- EMERGING PRODUCTIVITY TOOLS ENABLE ALL PEOPLE TO CREATE EVER MORE VALUE
- IT IS DIFFICULT TO SHAPE PEOPLE TO FIT THE RAPIDLY CHANGING JOB SLOTS
- MORE THAN HALF OF ALL PEOPLE IN OECD-COUNTRIES ARE NOT ACTIVE WORKFORCE

BRIDGING SILOS IS KEY TO GROWTH AND GOOD GOVERNANCE

- POWER IS VERTICAL, POTENTIAL IS HORIZONTAL
- INNOVATION, EDUCATION AND JOBS ARE SILOS WITHIN GOVERNMENT AND BUSINESS
- GOVERNMENT, BUSINESS AND EDUCATION ARE SEPARATED IN SILOS
- BRIDGING THE SILOS CAN BOOST A MARKET FOR DISRUPTING UNEMPLOYMENT.

INNOVATION CAN DISRUPT UNEMPLOYMENT

- IF INNOVATION TAILORS GOOD JOBS FOR EVERYONE UNEMPLOYMENT GOES AWAY
- INNOVATION KNOWS TO DISRUPT MARKETS FOR PRODUCTS&SERVICES, BUT NOT JOBS
- HOW CAN THE INNOVATION ECONOMY DISRUPT UNEMPLOYMENT?

i4j ACTIVITIES 2014-2015

- YEARLY SUMMIT IN SILICON VALLEY
- SPECIAL SUMMITS WITH i4j EXECUTIVE PARTNERS (max 4/year)
- BOOK OF PREVIOUSLY UNPUBLISHED IDEAS (NEW)
    - Geoffrey Moore: “Developing Middle Class Jobs in the Digital Economy” (Delivered. Geoffrey Moore is the author of “Crossing the Chasm” and other bestselling books.)
    - Jim Spohrer: “ 'digital cognitive assistants and jobs'”
    - Howard Rheingold
    - More essays on the way.

i4j SUMMITS 2014

- **i4j YEARLY SUMMIT, MENLO PARK, SILICON VALLEY, MARCH 17-18 2014**
    - **http://iiij.org/i4j/i4j-menlo-park-2014**
    - Organized by Vint Cerf, Google, David Nordfors, IIIJ - the i4j Chairs - and Sven Littorin, IIIJ.
    - i4j Executive Partners: FIRS, Google, SITRA, SRI International
    - i4j Challenges: How can we accredit marketable skills? How can we design and finance public services? How can the Internet of things increase personal health and job creation? How can innovation disrupt unemployment?
- **i4j SKÅNE, SWEDEN, JUNE 2-3 2014**
    - Organized by Pia Kinhult, First Governor of Skåne (Southern Sweden) Per Eriksson, President of Lund University, Sven Littorin and David Nordfors, IIIJ.
- **i4j PARIS, SEPTEMBER 6 2014**
    - Executive Workshop - Max 25 participants
    - Organized by Stefano Scarpetta, Director of the OECD’s Directorate for Employment, Labour and Social Affairs; Andrew Wyckoff, Director of OECD's Directorate for Science, Technology and Industry (STI) , David Nordfors and Vint Cerf, IIIJ
    - Venue: US Embassy, Hotel De Talleyrand, hosted by Daniel Yohannes, US Ambassador to the OECD
- **i4j WASHINGTON DC, OCTOBER 13-14 2014**
    - Organized by Vint Cerf, Google and David Nordfors, IIIJ
    - Venue: National Academy of Science, Washington DC
- **i4j HELSINKI, FINLAND, DECEMBER 4-5 2014**
    - Organized by Mikko Kosonen, CEO SITRA- Finnish Innovation Fund, and David Nordfors, IIIJ

i4j SUMMITS 2013.

- **i4j INAUGURAL SUMMIT, MENLO PARK, SILICON VALLEY MARCH 2013**
    - **http://iiij.org/i4j/menlo-park-2013**
    - Organized by Vint Cerf, Google and David Nordfors, Sven Littorin and Anders Flodström, IIIJ
- **i4j MUNICH, GERMANY, NOVEMBER 2013**
    - **http://munich.i4jsummit.org/**
    - Organized by Aart De Geus, President and CEO Bertelsmann Stiftung, Bertram Brossardt, General Manager vbw-Bayern and David Nordfors, IIIJ

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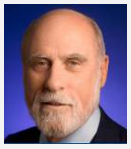

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