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Entrepreneur-in-Residence Programs: One Size Does Not Fit All

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Abstract: Universities and state governments are increasingly looking towards their technology transfer offices to aid in the incubation of new innovations to create new ventures and promote economic development. For a new start-up company to succeed, a strong technology founder and partners with business experience are crucial. Many universities are utilizing entrepreneur-in-residence (EIR) programs to attract professionals with extensive industry or entrepreneurial expertise to act as mentors for university researchers interested in forming a company. In this review, we have surveyed 38 universities to determine common and best practices for active EIR programs, and we review those results in terms of the different decisions a TTO needs to make when designing their program. We dive deeper into specific details of some of the programs for several top performing offices in the United States, including Columbia University, the University of Washington, Boston University, the University of Minnesota, and the University of Michigan. We also describe in detail the newly formed EIR program of a smaller research university at the University of Wisconsin-Milwaukee (UWM) which contrasts with the common status quo of the more established programs. We illustrate how the UWM EIR program may be another useful model for new technology transfer offices that are looking to stimulate the entrepreneurial ecosystem at the university in a bottom up fashion.

Keywords: Entrepreneur, Entrepreneur-in-residence, Executive-in-residence, Incubator, Spin-out, Start-up, Technology transfer.

INTRODUCTION

Universities around the world, both large and small, utilize technology transfer offices (TTOs) in order to transfer new inventions into the commercial market. The clearest paths to market for university technologies are either licensing the technology to established companies or through furthering the development of the invention through a start-up company. It is important to realize that not all technologies are appropriate for the creation of a start-up. The effectiveness of the patents, importance of complementary assets, age of the industry, the degree of market segmentation, and average firm size in that industry, all affect the success of start-up formation [1]. In many cases the start-up company is formed at the university with the original inventor(s) as founder(s) of the company. The formation of a new company is not an easy task. While the faculty or student inventors may be experts in a technical area, it is rare that they also have the business acumen, experience, or knowledge of the start-up company process. Many TTOs have created new mentoring teams known as executive-in-residence (XIR) or EIR programs in order to aid their fledgling university based start-ups. In this review, we focus more closely on the role of the EIRs in mentoring new start-up companies at the university, but TTOs utilize the seasoned executives and entrepreneurs for many other functions during the technology transfer process. We will also provide an overview of how EIR programs are organized, and examples of how several specific offices are running their EIR programs. We expand upon the programs at Columbia University, Boston University, the University of Michigan, the University of Minnesota, the University of Washington, and Wake Forest University. We also present an alternative model from the University of Wisconsin-Milwaukee (UWM).

At the UWM Sheldon B. Lubar School of Business several top business leaders are employed as executives-in-residence to share their expertise and experience in the classroom and also provide one-on-one mentoring to students and career advice. UWM also utilizes EIRs who are involved in teaching and many entrepreneurial events on campus including an entrepreneurship internship program, business plan competitions, a distinguished lecture series, entrepreneurship courses, and certificate programs. Even with these programs in place, we still felt we could do more for our students interested in starting up their own companies and nurturing an innovative and entrepreneurial ecosystem. The university and the UWM TTO known as the UWM Research Foundation (UWMRF) decided to create a new EIR program, housed at the UWMRF, where the entrepreneur is a recent Ph.D. graduate from the university. In this article we will describe how this additional EIR program at UWM has begun to make an impact with faculty and students.

OVERVIEW OF TTOs

Technology transfer offices exist in all shapes and sizes and these variations depend on factors such as the culture of the university, the number of students and faculty, the

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strengths the university has in different research areas, the amount of research dollars, and the budget for the TTO. In general TTOs have a process in which they receive new invention disclosures from the researchers and perform an evaluation regarding the patentability or protectability of the intellectual property, and the potential market size for the idea or product [2]. Some offices may file patent applications on most inventions that they receive, while others can be quite selective in their investments. No matter what the internal process is, the end goal is to license the technology to an entity that can develop the invention or copyrighted work into a final product for sale in the "real world" [3]. It is through the license agreement to industry or start-up companies that monetary gain can be achieved by the TTO and the university, and this money is reinvested into new invention disclosures, and aids in supporting overhead costs of the office. In order for a technology to be successfully licensed, help from the inventors is often crucial. The inventor is the expert in the field and often has the best opportunity to spread the word to other researchers and companies when they attend various conferences to present the technology. In many cases it is these interactions by the researchers that are most productive in getting the invention licensed.

Many researchers, while helpful in the patenting and licensing process, prefer to focus on the academic research only. They are happy to hand over their inventions into the capable hands of the TTO staff so that they can focus on what they enjoy best. Some researchers do not have deep interest in the business realm and prefer to aid in the process rather than lead the product development efforts. A smaller percentage of researchers get bitten by the "entrepreneurial bug" and decide that they would like to delve into the world of start-up companies or spin-outs. The rarest occurrence is the professor or researcher that has the background both in research and business development, who can act as CEO of the company. These archetypes above are broad generalizations of some of the types of faculty and researchers that TTOs work with. There are numerous reasons why the inventors may or may not want to play a role in the start-up themselves. In past decades, studies have shown that inventors had to leave their positions at the university in order to create successful start-ups and this was known as "brain drain" from the universities [4]. In more recent years some universities have determined that providing flexibility for their faculty in the realms of consulting and entrepreneurship can actually enhance the faculty member's research, and introduce the university to more industry partners that could potentially provide funding through sponsored research. Many TTOs have observed that faculty members may prefer to play a role on the scientific advisory board of their start-up company, while the graduate student or post-doctoral researchers who contributed to the inventions end up running the start-ups. These new entrepreneurs are most often the ones interacting with the EIRs and can be more open to the advice and mentorship of external advisors.

Since the Bayh-Dole Act was passed in the U.S. in 1980, the attention to academic entrepreneurship has continued to increase, especially in the form of start-up companies [5]. There are advantages and disadvantages to forming start-ups in the university setting. One negative aspect is that nurturing start-ups can consume many of the resources available to the TTOs to find licensors for expensive patents [6]. Licensing to start-ups also pushes potential income further into the future since up-front cash is usually waived or diminished in return for equity in the companies. The costs can be minimized if funds can be leveraged from local and state business and government. The formation of start-ups can be advantageous for many reasons such as being well received by the state government as a means to improve the local economy and job creation, providing support for the entrepreneurial ambitions of university stake holders, attraction and retention of high quality students and faculty, and bridging of the "valley of death" that often thwarts young technologies. Focusing on start-ups represents a greater financial risk to the university, but higher returns may be expected if the company succeeds.

When the inventor is interested in starting their own company, the TTO staff aids in educating those inventors about the start-up process, helps them to navigate the conflict of interest plans at the university, and connects them with area resources that can help in forming the company. Many TTOs have realized that while this guidance is necessary, it often isn't sufficient. One of the most important factors in starting up a successful new company is the strength of the team of people involved in the start-up [7-8]. Often with an early stage company, this would potentially include the original inventor(s), who may also be the founder(s) of the company, and who either take a role on the scientific advisory board or serve as the chief technology officer; a business professional or entrepreneur acting as the chief executive officer; and an additional member who might be involved in the financials and/or marketing and business development of the company. Furthermore, start-ups desperately need input from experienced industry executives and entrepreneurs, who can educate the team about the industry itself, make connections to potential business partners, challenge pre-existing beliefs, identify sources for customer interviews, and other similar roles. TTOs also often lack proof of concept funding to aid new start-ups with their early stage goals of creating prototypes, conducting initial market research, and developing business plans [9]. Even the well-resourced TTOs generally realize that they cannot serve as the only source of expertise for their new start-ups, and many have now formed entrepreneur or executive-in-residence programs to better serve the budding faculty and student entrepreneurs at their universities.

WHAT ARE EIR PROGRAMS AND HOW DO THEY WORK?

In the academic world, an EIR is a business executive, serial entrepreneur, investor, expert from a specific industry, or other professional that can support the TTOs or technology incubators in the evaluation of technologies and formation of start-up companies [10]. There are multiple reasons why these professionals may choose to become EIR mentors. While in some instances an EIR position may be a paid full-time job, many of the mentors work as volunteers for low or no pay. One benefit to being an EIR is early exposure to new promising start-ups or cutting edge technologies. In some cases, an EIR may decide to join one of the start-ups that they are mentoring, or perhaps invest in

an early stage company. Some EIRs may be nearing retirement and cutting back on their full-time positions, and therefore they have interest in participating in a mentoring program for new entrepreneurs. Other EIRs have just completed an exit from another company, and may be in between ventures, thus they have time to work with the university in an EIR setting. Lastly, another motivation of EIRs may be to support the growth of the entrepreneurial efforts at the university or the region in general. A goal of this review is to provide a better idea of how to structure an EIR program such that the EIRs and the start-up teams mutually benefit.

We surveyed a total of 38 universities (Table **S1**) regarding details of their EIR programs. We collected the survey data by requesting responses through the Association of University Technology Managers (AUTM) directors' discussion page and the AUTM general members' discussion page. We also searched for existing EIR programs described online and reached out to those offices to request survey participants. While a specific type of commercialization office was not solicited, the majority of respondents were TTOs. The responses collected will be most applicable to TTO programs looking to support their early stage start-up companies, but as can be seen by the data collected, the EIRs are utilized in numerous ways depending on the needs of the office. The specific programs outlined below were chosen due to the affiliations of the authors (Columbia and UWM), established relationships with an author, or colleagues that offered to speak in more detail by personal communication. Besides UWM, the other six universities highlighted here have EIR programs that have been established for a numbers of years. These schools also receive a substantial amount of research dollars, invention disclosures per year, and licensing revenue thus demonstrating an excellent starting point for the formation of several start-up companies per year.

As can be seen in the figures, a wide variety of models are utilized regarding the number of EIRs concurrently employed, the duration of an EIR's term of employment, percent of time the EIR allocates to working with the TTO, and the amount of salary received by EIRs. The data suggest that there are generally two models of EIR programs which we have dubbed the "Quora approach" and the "McKinsey approach". In the Quora model (named after the wisdom-of-crowds website), a larger number of EIRs are engaged concurrently, at a relatively low time commitment per week, with lower or no compensation. This model seems designed to provide researchers with quick "real world" input across a wide array of projects, but not necessarily to encourage deep engagement in any one project. The "McKinsey approach" (named after the large strategy consulting firm) relies on a smaller number of concurrent EIRs with deep subject matter expertise, a larger time commitment and generally higher compensation. This model still provides the high level of expert advice as in the Quora model, albeit from a more narrow range of backgrounds. However, these EIRs have the experience, time, and commitment to delve more deeply into specific projects, including potentially acting as a working team member for the project until a full-time management team can be hired. The pros and cons of each model and which one is chosen likely depends on the needs and capabilities of each academic institution, including their staffing levels, business expertise, access to local mentors and advisors, access to local start-up management, and other factors.

REVIEW OF THE DATA

Based on our survey 68% of the offices utilize five or less expert EIRs (Fig. **1**). Two simple models are as described above, (a) that of a large stable of experts with more of an advisory role, less time commitment, and no monetary compensation or (b) that of a small number of experts with deeper dedication, more time commitment, and higher compensation. That being said, there are numerous examples of programs in-between these extremes.

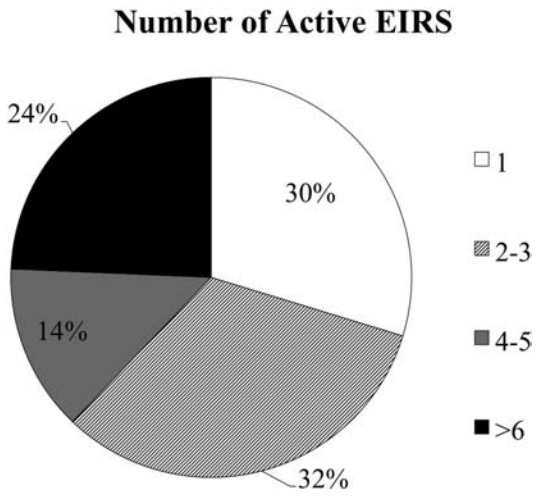

Fig. (1). Number of active EIRs; N=37.

When asked about the length of time that EIRs worked with the TTO, only 5% employed their experts for 3 months or less. The duration of the appointment varied greatly between 3-6 months, 7-12 months, or longer than one year and often depended on each individual EIR and their interests (Fig. **2**). In some cases EIRs are given a shorter trial period of several months before the TTO commits to a longer engagement with the individual. As with most positions, not all EIRS offer the same level of interest and effort when working with start-ups.

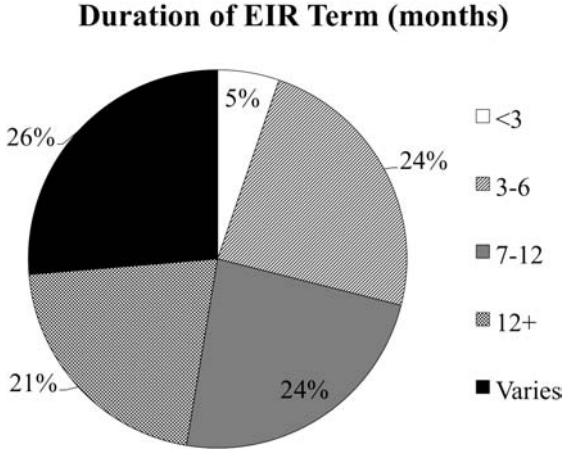

Fig. (2). EIR term duration; N=38.

Since many EIRs are also working as industry and business professionals, it makes sense that almost 40% of respondents indicated that the EIRS spend 20% or less of their time aiding the TTO and their start-ups (Fig. **3**). 43% of respondents indicated a range of time allocated between 21-100% with the remaining 18% noting that time allocation varied for each EIR that worked with their office.

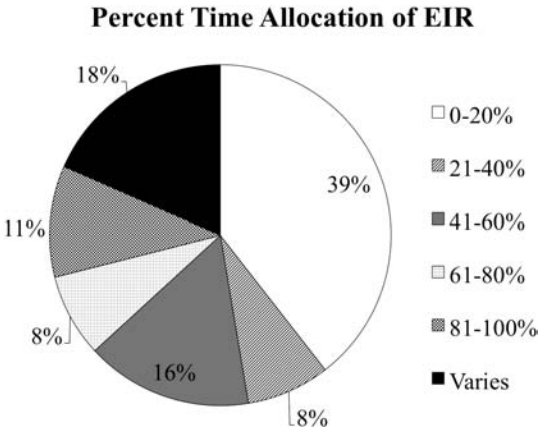

Fig. (3). Amount of time EIRs work with the TTO; N=38.

One major decision for each office is whether to compensate the EIRs for the time that they volunteer. Those EIRs making greater than $6,000 per month were in offices with only 1-3 EIRs concurrently employed (Fig. **4**). For the nine offices with six or more EIRs working concurrently, five of them pay salaries of $1000 or less, one pays $2,000-5,000 a month, and three indicated that salary varied. The trend is clearly towards lower pay or no pay when more EIRs are employed.

In a majority of offices, the main goal of the EIR program is to encourage the formation of start-up companies, but the expertise of the EIRs can be beneficial in numerous ways. We surveyed offices to determine which types of additional duties their EIRs contributed to. The graph in Fig. (**5**) shows that the most common help included further mentoring of start-ups formed at the university and utilization of the EIR network to make introductions. These introductions may be useful in getting the start-ups off the ground, in connecting the TTO licensing managers with executives, or other business development contacts that may be interested in licensing from universities. Almost half of the respondents also obtained help from the EIRs in evaluating new inventions disclosed to the TTO. This input can be extremely useful when the EIRs have expertise in the particular industry related to the disclosed inventions, and can save a lot of the time it takes to market the technology to other companies when the TTO is unsure of the market value.

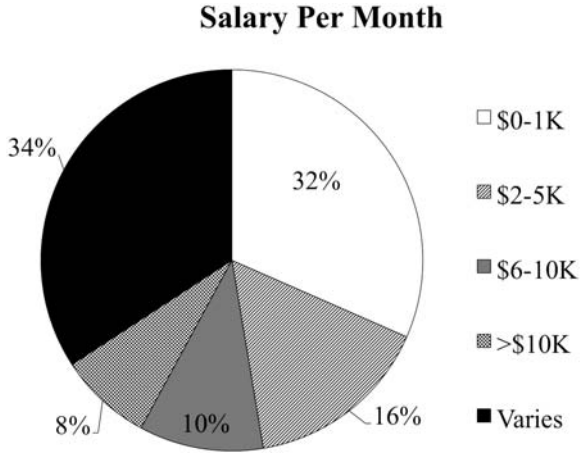

Fig. (4). Salary paid to EIRs per month; N=38.

Thus far, we have made a case that EIR programs can be immensely useful, but the catch is that you need "good" EIRs for the program to be successful. Many have reported that superior company growth is observed when within the founding team, there are individuals with prior entrepreneurial experiences [11]. So where does one find a "great" EIR? We surveyed 38 offices to find out how they source their EIR program. A little over half of the TTOs depend on word of mouth, personal contacts, and introductions to find and interview their EIRs (Fig. **6**). A related and close second method was networking. TTO directors and licensing managers attend many networking events and thus are keeping their eyes and ears open as they meet new industry experts and entrepreneurs. Local talent is

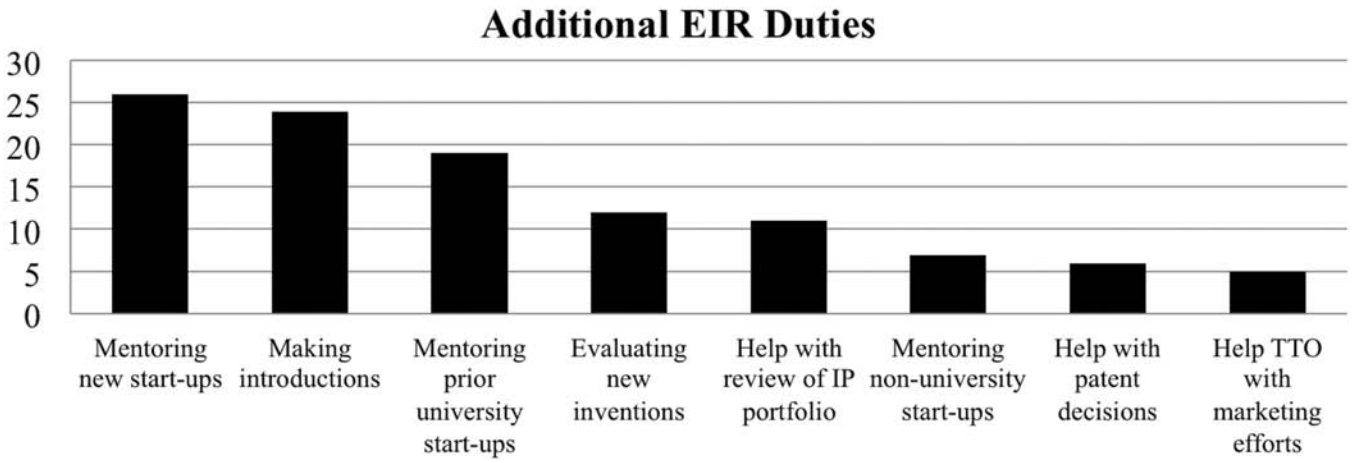

Fig. (5). Additional duties EIRs are utilized for by the TTOs; N=29.

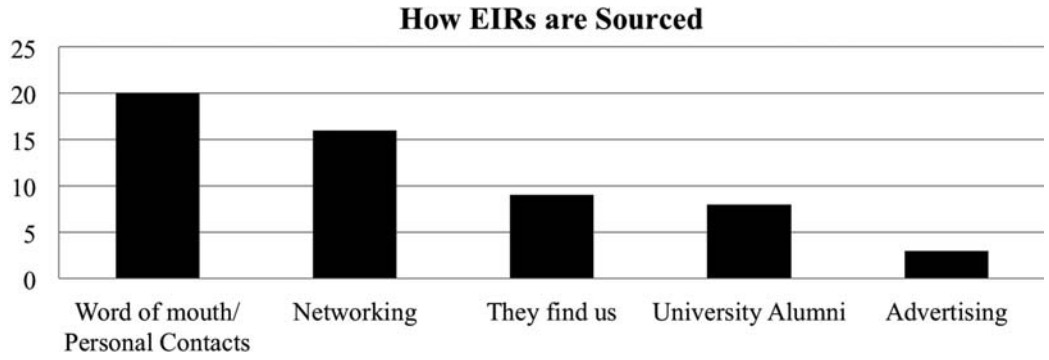

Fig. (6). How TTOs find their EIRS; N=38.

clearly beneficial since people may be able to easily visit the campus in person to meet with start-up teams, though many respondents indicated that virtual meetings are also employed. University alumni are often a great place to start due to the personal ties that the individuals have with the university. In some cases people from the community learn about the EIR program and actively seek out the TTO to inquire about becoming a mentor. The majority of the EIRs are professionals with extensive industry experience or who have participated in multiple start-up companies, as opposed to investors or young graduates (Fig. **7**). No matter where the talent comes from, all offices must perform their due diligence and conduct background checks on potential EIRs to ensure that their start-ups will be placed in good hands. Next we will touch upon other rules of engagement and contracts needed when hiring EIRs.

EIR CONTRACTUAL OBLIGATIONS

The majority of survey participants were also asked what types of documents their EIRs were required to sign upon joining the team. 27 of the 30 indicated that a non-disclosure agreement is utilized to protect the intellectual property rights. Ten respondents use a code of conduct document, which generally covers confidentiality provisions, the ability of the EIR to invest in or join start-up companies, whether EIRs can participate in revenue sharing, and what efforts are expected of them in the position. Other documents that were also mentioned included intellectual property assignment agreements, conflict of interest agreements, and consulting agreements. When starting an EIR program, some version of these agreements will be necessary to protect the inventors and clearly delineate the rules and regulations of the position. In the next section, we would like to expand upon several specific models of EIRs at some of the universities that were surveyed.

SPECIFIC EXAMPLES OF UNIVERSITY EIR PROGRAMS

In the next segment we outline several different university programs to compare and contrast the intricacies of each. As discussed above, the model that each office adapts will depend on the capabilities and resources available within the institution and the local market. We must not forget that with the birth of a new EIR program, one or more staff members working at the TTO will need to devote their time to finding, vetting, hiring, organizing, and managing the entrepreneurs or executives, and ensuring that they are contributing to the projects that they are assigned to. We hope that these examples will provide a good starting point for TTOs that are looking into forming their own program.

COLUMBIA UNIVERSITY

Columbia Technology Ventures (CTV) is the TTO of Columbia University, managing approximately 400 new inventions each year stemming from over $700M in research dollars. Each year CTV executes over 100 license deals and roughly 18 new start-ups across fields such as biopharma therapeutics & diagnostics, medical devices, IT, cleantech, big data, nanotechnology, and materials science. CTV formed its executive-in-residence program in 2011, growing from one EIR initially to four to five concurrently today, and

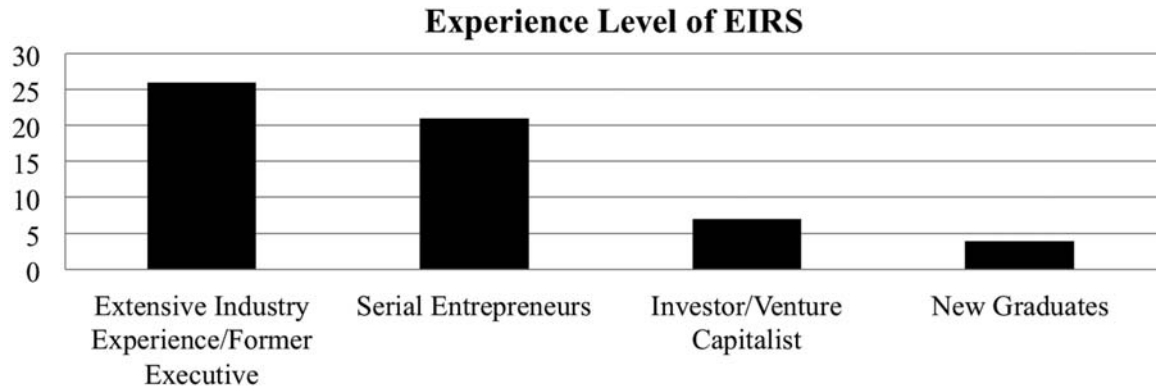

Fig. (7). EIR experience level; N=38.

with 18 EIRs cumulatively participating over the years. The EIRs spend roughly 20% of their time working with Columbia both on campus and off site and are paid $1000 per month for their services, typically for three to sixth months engagements extendable by mutual agreement. CTV's EIRs sign an engagement letter acknowledging a code of conduct, a non-disclosure agreement to ensure that consults with researchers do not interfere with the patentability of new inventions, and an intellectual property assignment letter indicating that CTV owns any intellectual contributions made by the executive under their employment at Columbia. The past and present EIRs for CTV have brought with them experience from Fortune 500 companies such as Google, HP, IBM, Sanofi, Merck, J&J, and United Healthcare, as well as from multiple successful start-ups and venture firms. [12].

Over the years, CTV has evolved their EIR on-boarding into a fairly structured process. EIRs are brought on in cohorts, and spend the first few weeks getting trained in University tech transfer including CTV's mission, objectives, and approach; patenting in the university context, and Columbia's approach to structuring start-up licensing and support in particular. They are provided with business cards, LinkedIn write ups (and asked to update their personal profiles), introductions *via* email to the entire Columbia research faculty and external mailing list, introductions to the various campus entrepreneurship support resources, and are included in lectures to help with introducing them to the campus. The EIRs also meet with the entire licensing team both upfront and repeatedly thereafter, in order to identify emerging start-up opportunities and research projects that might benefit from their engagements. All EIRs come together once a month in person, both to share updates and also to meet as a group with promising start-up teams. The EIRs are also encouraged to connect with the entire Columbia University community and with the NYC start-up ecosystem more broadly, and instructed to just "be useful in whatever way you can". During meetings where start-ups are discussed, multiple EIRs are encouraged to attend and debate the business model and company activities. Specific metrics are not tracked at this time by the CTV, but the program clearly benefits the technology licensing officers' ability to manage their IP portfolio, supports emerging start-up teams, and creates a positive buzz on campus. In addition, CTV's EIRs have ended up investing in a few Columbia start-ups, and one EIR has joined a start-up as their full-time CEO. EIRs are allowed to engage in deeper consulting relationships with the start-ups, but they must inform the CTV in order to recuse themselves when that particular start-up is discussed at meetings. When an EIR's term is completed, the CTV conducts an exit interview for TTO improvement purposes and they continue to stay in contact with the executives after the program ends. Further information on Columbia's program is available by emailing techventures@columbia.edu (please reference this journal article for context).

BOSTON UNIVERSITY

Boston University, together with Boston Medical Center (BU) is served by the BU Technology Development Office in collaboration with the BU Institute for Technology Entrepreneurship and Commercialization. BU receives about $400 million in research awards which leads to about 100 invention disclosures and 3 start-ups per year. In 2009, they formed the BU *Kindle* mentoring program to educate faculty, students, and alumni and facilitate early stage business formation. The program consists of about 65 active mentors who are seasoned entrepreneurs and business executives from a variety of industries and occupations. Generally the mentors are alumni or they are found through personal connections with the staff. Mentors work as unpaid volunteers, either individually or in groups, and can choose their projects [13]. They are also provided with the opportunity to network with other mentors through regular meetings. The time commitment expected is two hours per month which amounts to one mentee meeting per month, and the term of service varies for each mentor. The mentors agree to a strict code of conduct consistent with the university's mission. The *Kindle* mentor agreement is made available when the mentor registers through the Kindle Registration portal and it protects the mentee's intellectual property. The online process provides a quick and easy way for BU alums to apply as mentors and reduces the burden for mentor and mentee.

BU *Kindle* provides a unique opportunity for seasoned entrepreneurs and business executives to have direct and meaningful interaction with the BU community. The mentors meet at quarterly meetings to provide review and feedback on presentations by gap funding award candidates, sign up to mentor specific BU pipeline technologies, sign up to judge or mentor student-run accelerator events, to network, and for recognition of exemplary length of service and commitment by distinguished members. The BU Technology Development Office looks at success metrics including number of new start-ups formed, faculty satisfaction, and the number of meetings held with students during the mentor's term. A number of support programs are supported by the *Kindle* Mentors:

- Boston University Venture Accelerator – A student-run venture accelerator that expands BU's entrepreneurial community
- Pitch & Pizza Competition – 60 seconds to pitch to a panel of experts, get feedback, and get new team members
- Entrepreneurship Programs Office New Ventures Challenge – Competition and annual $50,000 in awards for student-run start-ups
- Speed Networking – Rapid-fire connections between student entrepreneurs and successful alums
- Summer Accelerator Program – Combination of start-up leadership teaching and incubation for student ventures
- BU OTD Ignition Award – Annual gap funding awards to early stage BU technologies in life sciences/high technology
- Wallace H. Coulter Foundation Award – Annual gap funding awards to early-stage BU inventions in medical technology

Mentors have been paired with Ignition award candidates over the past several years to encourage the next round of award winners. If the mentors decide to commit to joining a start-up company they must then cease being a *Kindle* mentor. The *Kindle* program is considered a success with more than 80 new *Kindle* mentors registered between 2011 and 2013.

UNIVERSITY OF MICHIGAN

University of Michigan (U-M) technologies are handled by U-M Tech Transfer. In fiscal year 2014 U-M had $1.3 billion in total research expenditures which led to 439 reported discoveries, 148 license/option agreements, and helped to create 14 start-ups. Over the last 10 years, U-M has initiated several funding and talent programs that have helped to increase their technology transfer performance. They are recognized as being among the top ten of all universities for technology transfer.

In 2008 U-M Tech Transfer created the Mentors-in-Residence Program, using experienced entrepreneurs to help accelerate U-M start-up projects, assess new inventions, and give advice on a variety of commercialization issues. Mentors-in-Residence (MIR) reside within Tech Transfer, and work on multiple start-up projects as part of Tech Transfer's Venture Center. The MIRs are half-time employees working a "rotation" of 12-18 months and receive hourly compensation that averages $4,000 per month. The Mentors-in-Residence program differs from a traditional EIR program in that the MiRs cannot have a financial or management interest in their start-up projects and typically handle a caseload of 4-8 start-up projects, similar to Venture Center staff. This was designed to ensure that interactions, especially with faculty, are unbiased by personal considerations, and to expand the capabilities and resources for tech transfer projects. U-M Tech Transfer currently has 8 MIR positions representing a variety of technology and market backgrounds, and MiRs often recruit other entrepreneurs, investors, and advisors to expand the resources available for projects [14]. MiRs sign a confidentiality and code of conduct agreement and are required to disclose any relationships with companies that might compete with U-M projects. Tech Transfer looks for MiRs with extensive experience creating and working in early-stage companies and having both experience and personal connections to raise venture stage capital.

U-M Tech Transfer has realized many benefits from the MIR program which includes expanding Tech Transfer team capabilities, instilling a stronger entrepreneurial mindset among staff, fostering stronger connections to the venture community, improving the venture creation process, and becoming strong advocates for the work being done at the University. Some unplanned advantages from the program have been the valuable advice and training for the TTO staff and the collaborative relationships formed among MiRs and other members of the tech transfer team. Another benefit has been the evolution of the MiRs into a "club" which has increased the attractiveness of the program and enhanced the ability to attract new MiRs. In 2012 U-M Tech Transfer helped to create the Tech Transfer Talent Network (T3N) with the support of the Michigan Economic Development Corporation (MEDC), to share talent, programs, and best practices amongst seven Michigan universities [15]. Talent programs including the MiR concept pioneered at U-M were shared with the other universities, and MEDC provided funding to encourage their adoption with a goal to increase tech transfer performance at the various schools. Given the differences among the regions of these 7 universities, programs have been tailored and best practices shared. Some of the regions lacked critical talent resources, so now U-M is also centrally managing pooled MiR resources to be shared among universities (often smaller) in these regions. The T3N program has resulted in more collaboration among these Michigan universities in using specialized talent to enhance tech transfer performance. This entrepreneurial talent initiative provides a great example of how Midwestern universities can increase their effectiveness in recruiting, sharing, and using talent in local regions to increase the impact of tech transfer efforts.

UNIVERSITY OF MINNESOTA

The Office of Technology Commercialization (OTC) at the University of Minnesota (UMN) oversees all aspects of technology commercialization in the business units of agriculture and horticulture, engineering and physical sciences, life sciences, software and information technology, and start-ups. The university was one of the top 15 public institutions in 2012 according to the NSF R&D expenditure survey and received $693M in research funding in 2013 with 331 invention disclosures, 91 licenses, and 14 new start-ups. In 2007 the OTC formed their CEO-in-Residence program as a cornerstone of their Venture Center. The goal was to match CEOs and business executives with university inventions by recruiting individuals with a proven track record in establishing, financing, and leading start-up companies [16]. Originally the CEO-in-Residence (EIR) program would sponsor on average about 6 executives and pay them $10K for three months of support in helping the Venture Center. In 2011 program was changed to expand the base of EIR support by adding advisors, mentors, and potential board members to the group of executives looking for their next startup opportunity. This Business Advisory Group operates today with approximately 70 diverse outside executives that provide a wide range of support for UMN startups. The Venture Center meets with this group formally every other month and as needed with selected members for deep dive sessions (early stage startup assessment and planning), startup presentation dry runs, and for various startup support sessions. The Business Advisory Group members participate for no pay. Each year the Venture Center renews participation based on attendance and interest from the members.

Interestingly UMN found that paying the EIRs did not result in an increase in quality or quantity of start-ups. Current and prior executives were experts in medtech, biotech, IT/software, cleantech, agriculture, and consumer products. The EIRs must sign a non-disclosure agreement and a code of conduct agreement before joining the team. The expectations of the EIRs include active participation in bi-monthly meetings, assistance with technical and market advice for the technologies, connecting with other key stakeholders and industry experts, corresponding on projects outside of the regularly scheduled meetings, and help in

finding the next deal. The EIR is allowed to lead a new start-up company if the opportunity is of mutual interest with the founders.

Some best practices suggested by the UMN OTC include checking the background of your potential EIR and talking to their references. These days a lot can be found even through online searching of your potential new mentors. Before engagement they also recommend discussing the expectations for being part of the team and being sure to manage those expectations through mutual due diligence. During their term, the OTC suggests that the TTO engages the EIRs *via* attendance at multiple events and seminars and include them as part of the content at these events. Similar to the other offices, use of the EIR business network is the key to opening up resources for the start-ups. They also urge TTOs to keep EIRs well fed if they don't receive any compensation! Finally, after the engagement ends, they advise offices to be sure to keep the EIRs as part of the network community, and ask them to help in spreading a positive message about the TTO and encourage other contacts to become EIR candidates.

UNIVERSITY OF WASHINGTON

The University of Washington's (UW) Center for Commercialization (C4C) supports the university researchers who attracted over $980 million in federal funding in 2013 as well as $1.2 billion in sponsored grants and contracts. In FY2014, 421 innovations were reported by researchers at UW and 603 technologies were licensed. In FY2013, 17 start-ups were formed, ranking third in the nation. The C4C New Ventures team created their EIR program in 2009. Veteran start-up experts are invited to join C4C for six months to spend 10-20% of their time working with the office, and they are compensated $1000 per month. The C4C employs eight EIRs concurrently and they are assigned with helping identify technologies with commercial promise and providing UW researchers with real-world insights about the commercialization process. Upon joining the team, the EIRs must sign non-disclosure and intellectual property assignment agreements with the university. The typical profile of the C4C entrepreneurs includes significant start-up experience, experience raising capital, and often they are early-stage CEOs looking for their next opportunity [17]. Metrics followed by the C4C include the number of start-ups per year, the number of venture funded start-ups, the amount of follow-on funding attracted, and faculty satisfaction. The sector areas of interest are medical device, software/IT, therapeutics and diagnostics, clean technology, materials, and non-medical devices. Thus far the best sources for EIRs have been venture attorneys in the Seattle area and referrals from previous EIRs.

The C4C leadership provided helpful feedback regarding the positives and negatives of their EIR program. One observation is that the low pay is generally not an issue since the position is part-time and most entrepreneurs have other income streams. EIRs are also usually accustomed to upside compensation. A problem observed is the maturity of the project versus the duration of the engagement. In many cases the early stage nature of a start-up technology does not align with a 6 month position especially with life science ventures. The EIR contract can be extended if the parties mutually agree and the EIR has focused on a project to spin-out. The development of more resources to advance and de-risk projects is crucial in helping to move the start-ups more quickly down the path of commercialization. The UW EIRs have indicated that they like the diversity of projects with the C4C, the start-up atmosphere, and a team approach, as well as helping the faculty. One key lesson learned is to get the right people connected with the right project by utilizing the technology managers in the process. Setting expectations with the EIRs and the start-up teams early on in the process is also paramount. They have found that the use of EIRs is critical in the process of knowing when to spin out the company by balancing de-risking in the university setting versus seeking professional investment. The C4C EIR program is focused on spinning out companies, and they suggest that if start-ups are your primary focus for the program, you should avoid assigning the EIRs with tasks not associated with this goal. Lastly they share that keeping "fresh" EIRs moving through the program regularly increases the breadth of input to the start-up teams and the likelihood of a good match.

WAKE FOREST UNIVERSITY

Wake Forest Innovations [18] supports the commercialization of inventions and incubation of start-up companies created at Wake Forest Baptist Medical Center. Wake Forest receives about $200 million in total research funding annually which yields approximately 100 new inventions per year, 6 start-ups in 2013, and licensing revenue of almost $230 million for FY2009-2013. The Product Innovation & Commercialization Services team invests in the creation of innovative technology, products, and services, and licenses these to existing and start-up companies. They have the ability to financially support researchers through prototyping and proof of concept studies to aid in the development of new ideas into commercially viable products. Besides licensing to established companies, this group also assists in capital formation, incubation, and early development of start-up companies, including those that can locate at Wake Forest Innovation Quarter. The Innovation Quarter Services engages in the outreach and support to the entrepreneurial community by providing services, and dry and wet lab incubator space for the start-ups. In 2007 Wake Forest Innovation began their EIR program to assist in building virtual start-up companies.

The Wake Forest EIR program involves the formation of a team of three which includes the lead researcher, a staff member from Product Innovation & Commercialization Services, and an outside entrepreneur. Generally the start-up idea is pitched to a potential entrepreneur under confidentiality to determine whether they may have interest in joining the team, or perhaps any of the other teams in the TTO's portfolio. If the entrepreneur would like to work as an EIR, Wake Forest Innovations hires them as a consultant at a salary rate of $12,500 for 3 months to help push the company forward and see if further grant funding or other capital can be raised. This position can be extended should the relationship proceed successfully. Multiple EIRs have been employed concurrently, albeit for different companies. The EIRs are usually contacts that members of the TTO already know from the community or they are found at

various networking events. All EIRs must undergo a background check. The EIR expectations have included putting together a business/development plan, applying for grants for the company, fundraising, and assisting company formation as necessary. Quarterly or bi-monthly meetings are held to determine what progress has been made with each start-up and their EIR. Once the company is formed and the invention is licensed from the TTO to that company, the TTO and the EIR often receive equity in the company. A great advantage of this program is that the TTO has funding for development of the start-ups that can be made available for prototyping/proof of concept experiments, and other de-risking activities. If the TTO chooses to fund these activities, they then ask for a convertible note from that start-up as part of the license agreement. That convertible note will also include repayment of the EIR's salary upon initial fundraising. While the success rate of start-ups is often low for any EIR program, the Wake Forest Innovations gap funding model helps to keep the companies afloat during that critical early period after company formation.

SUMMARY FOR EIR PROGRAM BROAD SURVEY

As can be seen above, there are some key features of EIR programs that many offices practice. Survey respondents also provided some final comments regarding best practices for EIR programs. First, when setting up the program:

- Low quality EIRs are worse than no EIRs.
- You might consider providing compensation to EIRs or bonuses for performance, though some have found the money does not make a difference in performance.
- Set term limits upfront (which can always be extended) to avoid "zombie" EIRs.
- Figure out what paperwork you will require. The most common are NDAs, limited intellectual property assignments, and rules of engagement. EIRs will also often need a training session at the outset, to introduce them to the office staff, mission, capabilities, local environment, and licensing approach.
- Determine what activities are forbidden. For instance, can they also invest in the company or join the company? Can they advise or consult in a further capacity directly with the company?
- Act quickly in addressing possible code of conduct violations and terminate quickly if the EIR is not working out.
- Always perform an informal background check on the potential EIRs.

When setting expectations for the EIRs:

- Don't expect a spin-out every time since the matching of an EIR to a technology isn't always perfect.
- Encourage direct interaction between the licensing officers and the EIR. The relationship can provide a great learning opportunity for the licensing staff.
- While metrics are helpful, offices should appreciate that much of the value comes from less measurable factors like general branding on campus and faculty satisfaction.
- Expect to build the relationship between the EIR and inventors slowly, and know that they won't always work out well.
- EIRs (especially those low-paid) get bored quickly and it can be a challenge to keep them engaged. Be clear that they may run out of projects at some point.

One can see from the programs described thus far that the trend is towards the use of seasoned, veteran entrepreneurs, or industry executives that have been working for many years in a technical area. Our final example describes a university that similarly utilizes a more traditional EIR program, housed in the business school, but is now exploring a complementary program that harnesses the energy and knowledge of a recent graduate and entrepreneur developing his first start-up company.

UNIVERSITY OF WISCONSIN-MILWAUKEE

This recently pioneered program is from UWM and the UWM Research Foundation. In contrast to the programs described above, UWM is a smaller university with about $60 million per year in research expenditures that yield about 40 invention disclosures per year. The UWMRF aims to aid in the start-up of at least 1-2 companies (usually faculty researchers) per year for technologies assigned to the TTO. It was only in 2006 that the UWMRF was formed to fully support commercialization, therefore constant branding and awareness of the TTO and its services is still a key piece for engaging faculty and students to submit disclosures for review. Three years ago, UWM and the UWMRF began a new annual Student Start-up Challenge where undergraduates and graduates submit ideas to pitch for new start-up companies. Winners receive up to $10,000 in funding and support from the campus to bring their prototype, software, or mobile applications to fruition. In order to further promote the student start-up challenge program, and provide support to our student and faculty entrepreneurs, UWMRF's first EIR was hired in January of 2014 for a one-year term as a full time employee. This appointment has now been extended for an additional year. His duties are many and varied during this full time position, which allows him flexibility in pursuing his current start-up endeavor as well.

Since the UWMRF office was only born in 2006, we have had the unique opportunity to study the existing EIR programs from various institutions as described previously as well as those within UWM, where we currently have both an Entrepreneur-in-Residence and an Executive-in-Residence program that function within our Sheldon B. Lubar School of Business. These EIR programs utilize seasoned veteran entrepreneurs and successful industry executives respectively. These positions function in a similar capacity to those described above in the traditional sense that they operate in the EIR model consisting of a small number of experts with deeper dedication, more time commitment, and higher compensation. At UWM these 'traditional' EIRs teach regular classes on a semester basis (thus acting as

adjunct professors), mentor individual students and faculty, advise student organizations, participate in business competitions, and provide auxiliary support where needed. However, these two roles have previously been constrained to the business school only.

The inception of the UWMRF's new EIR program has allowed the university and the UWMRF to mold our own program towards the needs of a smaller research university that is keen on growing, and interested in taking on more of the contemporary issues associated with developing innovation and entrepreneurship ecosystems. The examples of programs above describe several large and well-established research universities often with five to ten times or more research dollars and invention disclosures as compared to UWM. Since UWM's strength is a large number of students, approaching 30,000, we have decided to focus on the undergraduates and our growing graduate programs. The new EIR program at UWM focuses on a bottom-up strategy where the EIR is responsible for engaging with faculty and students who may not be familiar with commercialization practices, or realize the opportunities to commercialize their ventures. We hope that by educating and encouraging the undergraduates to be more entrepreneurial, this will also transfer to the graduate students and faculty. Since many of our undergrads end up continuing their schooling at UWM for graduate school, we hope those undergrads with the entrepreneurial spirit will continue to work with us throughout their graduate studies. The goal of this strategy is to build an ecosystem of innovation and entrepreneurship that ultimately will create new start-ups, jobs, and skilled workers in the Milwaukee area through experiential learning opportunities. At UWM our new EIR utilizes his various platforms and experiences to work closely with students and faculty entrepreneurs by helping them bring their novel ideas to market. The UWMRF EIR provides the knowledge and assistance needed to evaluate commercial opportunities, define business models, develop business plans, identify resources to advance early stage enterprises, and aid in the many other aspects of the entrepreneurial arena on and around the UWM campus. The new EIR helps to bridge the gap between entrepreneurial related events, contests, and groups on campus, and provide overall support for innovation, entrepreneurship and commercialization [19]. With this multitude of different responsibilities, the EIR has a distinctive function that is driven by a bottom-up approach. The students and faculty can also relate to the EIR because he is a recent graduate from the university and an aspiring entrepreneur, who is successful in growing his own business. It is for these reasons the UWMRF's EIR program differs from traditional EIR programs where the mentors are fully established in their own professional careers. In this case at UWM, the faculty and students feel as if they can better relate to the rookie EIR as he is viewed to be only a few steps ahead in relation to their current position. For example, it is easier for a high school senior varsity athlete to relate to a freshman collegiate athlete than it is to relate to a professional athlete with 10 years of professional experience. The EIR program at UWM has three core focal points: (1) build a community through awareness; (2) keep students and faculty engaged; and (3) grow the community through outreach. Within each focal point, the specific sub-activities are detailed below in Table **1**.

BUILDING A COMMUNITY

The first step in the new EIR program at UWM is to establish a community of innovators and entrepreneurs through campus wide awareness. This means identifying faculty researchers with promising research and aspiring students who are seeking an outlet for their innovative creativity and business acumen. From Table **1**, it can be seen that much of the work of the EIR is to draw attention to the resources that are available within UWM and the UWMRF. There are many resources spread across the campus, but they are not necessarily well advertised in one common place. Preliminary steps involve visiting entrepreneurial-focused classes and innovative research labs such as those within engineering, life sciences, business, information studies, and the arts, and speaking to the students and faculty about the resources available. Other efforts surround meeting students outside of the classroom and engaging them in their extracurricular activities such as student organizations like the Collegiate Entrepreneurs Organization (CEO), a national student organization. Meet up sessions, or office hours open to the entire campus, are a great way for individual students and faculty-alike to stop by and interact with the EIR and learn about the resources of the TTO. To further build a community, the EIR program is focused on establishing a sense of community that is cohesive, open, safe, and free of the academic silos that create barriers for collaboration. This type of engagement is often performed through social functions such as happy hours on campus. Lastly, to keep faculty and students informed, the EIR has established an electronic newsletter that allows all news and events in the community to be shared with the goal of mobilizing faculty and students.

KEEPING PEOPLE ENGAGED

In the new EIR program at UWM, the second step is to keep faculty and students engaged through activities. The

Table 1. University of Wisconsin-Milwaukee EIR - key activities.

Build a Community	Keep People Engaged	Grow the Community
1. Class (Guest) Lecture	1. 1-on-1 Meetings	1. Off-Campus Relationships
2. Attend Lab Meetings	2. Business Model Canvas	2. First Look Forums (Showcase Events)
3. Student Organizations	3. Weekly/Weekend Workshop	3. 3 Day Start-up
4. Open Meet up Sessions	4. Student Start-up Challenge	4. University Innovation Fellows
5. Social Functions/Happy Hours	5. Innovation Spaces	5. Metrics of Student & Faculty Ventures
6. Entrepreneurship Newsletter		

largest time commitment of the EIR is to support the entrepreneurship community and the UWMRF by providing 1-on-1 mentoring sessions with individuals particularly faculty and part-time students that have other obligations. Often these sessions involve business model canvas workshops for research and business teams or individual entrepreneurs. Business model canvas workshops can include bringing in outside experts who can add value in the assessment of the business strategy and evaluate the business opportunity. When executing on the bottom-up strategy, students must be engaged in a manner that meets their schedule, often this is through weekly workshops that take place in the evenings or on the weekends. These workshops can include topics such as elevator pitch practice sessions, investor pitch presentations, or prototyping workshops. Another area of engagement that the EIR participates in is the Student Start-up Challenge. Here, the student businesses receive seed funding and mentorship to advance their early stage ventures in the hopes that they can begin to seriously consider commercialization. These types of activities not only engage students throughout the college campus by means of the application process, but also through the many events that are open to the public which expose new students to entrepreneurship. The exposure can also provide internship and collaboration opportunities for students. The EIR program at UWM continues to differentiate itself, as the EIR is also a key member in the strategic development of the entrepreneurship community as well as the physical spaces. In more recent initiatives the EIR is establishing maker spaces, innovation collaboration spaces, and entrepreneurship centers where students can have dedicated co-working facilities on campus to develop their ventures. These spaces can also be the focal points for entrepreneurial happenings on campus.

GROW THE COMMUNITY

The final high level focus of the new EIR program at UWM is to grow the entrepreneurial community at UWM. This will be accomplished through increased faculty and student involvement, support by faculty members, Deans, and other administrators, and byas reaching out into the local community and engaging with local businesses, entrepreneurs, investors, and other interested partners. As alluded to, building off-campus relationships is vital because this allows the faculty and student entrepreneurs to broaden their reach and make connections, form partnerships, and develop distribution networks that will facilitate the commercialization of their ventures. The UWMRF's EIR also participates in the development of community collaborative relationships such as forging a partnership with the local science museum to host "Innovation Pathways Workshops" that focus on different aspects of becoming an entrepreneur. Besides the community outreach, inviting the local business community to campus for particular technology and start-up showcase events helps to further cultivate the relationships with business leaders. The ability to engage with students by hiring a younger EIR, who has more recently gone through the stages of a start-up, helps with mobilizing students, and enables a flexibility in scheduling of events that meshes well with the students' schedules. This is especially helpful when one considers hosting start-up weekends, 3 Day Start-up events, or hackathons at times that are less likely to interfere with student class schedules. These events help to grow the entrepreneurial ecosystem at UWM by engaging more students on campus, as well as students from multiple colleges in the local community, and by networking with local business leaders who volunteer as mentors and panelists to evaluate the newly defined business ventures. The new EIR program at UWM works closely with the University Innovation Fellows (UIFs) program, sponsored by the National Science Foundation and organized by VentureWell (formerly NCIIA), to host events for students. The UIFs work closely with the EIR to further promote innovation and entrepreneurship at the university by encouraging student participation in all the activities happening on campus. With all of the different activities that the UWMRF's EIR is responsible for, processes have been put in place to quantify engagement. Students are asked to sign in at events and lists of student and faculty participants are maintained with their venture progress monitored.

METRICS

Various metrics are used to monitor the progress of this bottom-up strategy for establishing an entrepreneurship community at UWM. Faculty and student ventures are assessed based on (1) development stage; (2) business sector; (3) relationship with the university; (4) direct engagement with EIR; and (5) 1-on-1 meetings. The first three metrics are often snapshots of the market every three months and the last two metrics are a weekly accumulation of the contacts made with faculty and students.

The use of the more relatable EIR has had a positive impact on the growth of the technology commercialization and entrepreneurship culture at UWM. A sustainable community has been established where key metrics, shown in Fig. (**8**), are used to quantify community engagement. Fig. (**8a**) depicts the development stage of the ventures on campus and the percentage of the total known ventures in each segment. With the early development of the entrepreneurial culture at UWM, it is not surprising that 42% of the ventures are in the idea phase and 35% are in the functional prototype phase. Fig. (**8b**) shows the business sectors for the ventures on campus. Again, with the current macro-trends of mobile applications, informatics, and software a as a service (SaaS) in the United States, it is understandable that 19% of ventures are business services and 33% are information technology. Fig. (**8c**) depicts the EIR engagement level as it pertains to the relationship to UWM for start-up ventures. With the bottom-up process, the undergraduate and the graduate students are the largest populations to be engaged in newly formed ventures, with 35% and 20% respectively. Professionals (Non-UWM) represent individuals in the local community that are pursuing start-up ventures that began independently from UWM and have since formed relationships with the EIR by participating in maker space workshops, business seminars, panelist discussions, business model canvas sessions, or any other outreach event.

Faculty, staff, and alumni are an area of continued focus since the bottom-up approach of this newly developed program has yielded lower penetration with these

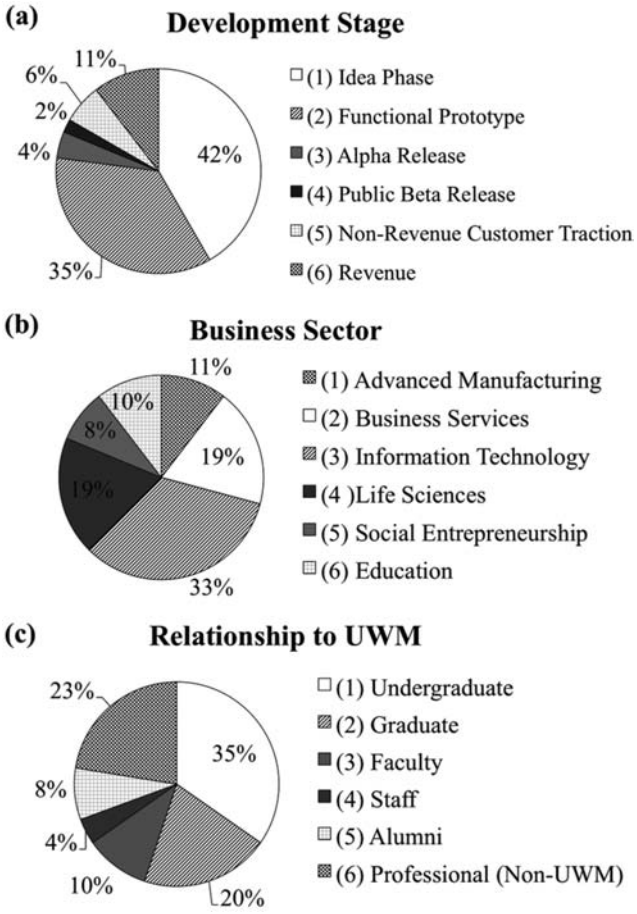

Fig (8). Metrics of UWM ventures, (**a**) development stage, (**b**) business sector, and (**c**) relationship to UWM.

individuals. Fig. (**9**), shows current rates of penetration by quantifying the community engagement through weekly direct reach and one-on-one weekly meeting with identified campus entrepreneurs who consist of students, faculty, and staff. Since the beginning of the UWMRF's EIR program at UWM in January 2014, the EIR has identified over 330 individuals working on new ventures as shown in Fig. (**9a**) and those individuals maintain positive relationships with the EIR and the UWMRF. Additionally, many of those individuals seek individual help as presented in Fig. (**9b**), where the weekly meetings with campus entrepreneurs are taking place. Interestingly, the EIR meets with on average one campus entrepreneur or one start-up team a day for a one-on-one meeting. It should be noted that these meetings do not include social events, workshops, or other group activities. As shown in Fig. (**9**), the innovation and entrepreneurship ecosystem at UWM is gaining traction and continues to grow as more individuals and projects are identified and more individuals decide to pursue commercialization of their ventures. As the community of entrepreneurs grows, hopefully this can snowball and facilitate further growth and expansion within the community both on and off campus.

The model that UWM provides is a viable option for universities of a similar size or with newly defined initiatives for innovation and entrepreneurship. Bringing on an EIR that is a recent graduate and entrepreneur who is also developing their first start-up company, provides credibility and relatability for students and faculty. What contributes to the success of the new EIR program at UWM is the fact that the EIR has a strong and motivated leadership circle. This circle includes the other EIR programs within the business school, key faculty in various departments across the university [20-25], support of the TTO to provide counsel, and strong partnerships with student organizations. Developing a resource map was one of the first steps in developing the bottom-up strategy, which included understanding the following:

- Curricular based initiatives (i.e. classes, labs, internship programs, university initiatives);
- Co-curricular entrepreneurship initiatives (i.e. student start-up challenge, UIFs, business plan competitions);
- Entrepreneurship support groups (i.e. faculty, staff, and student organizations);
- University centers (i.e. design research institute, drug discovery institute, business supply chain institute);
- University-based research and innovation programs (i.e. research grant programs and business commercialization grants);
- Campus innovation spaces (i.e. maker spaces, design labs, fabrication labs, etc.);
- Technology transfer initiatives (i.e. intellectual property management, marketing, licensing, etc.);
- Off-campus regional entrepreneurial programs and facilities (i.e. maker spaces, business incubators, and business development centers);
- Off-campus innovation initiatives (i.e. consulting groups, research consortiums; business accelerators);
- Regional early stage investors (i.e. angel investors, venture capital funds, and business loans); and
- Statewide initiatives and resources (i.e. entrepreneurship conferences, state grants, and SBIR/STTR grants).

Developing a resource map, engaging with students directly, and having clear pathways to identify resources to advance early stage enterprises, allow the EIR to effectively mobilize the student and faculty entrepreneurs and provide them the framework to seriously consider commercializing their ventures. The EIR program at UWM is in its early stages; however, this newer model has been effective at cultivating a new grassroots community that began with instilling a spirit of entrepreneurship in undergraduate and graduate students. The hope is that this will eventually percolate through faculty, staff, and recent alumni, and establish an ecosystem of innovation and entrepreneurship that can help to create new start-ups, jobs, and skilled workers in the Milwaukee area. Although there are many different EIR programs, this model demonstrates that a non-conventional EIR can be very effective at engaging student and faculty entrepreneurs through clear and transparent directives, with key activities defined, and metrics to monitor the campus impact.

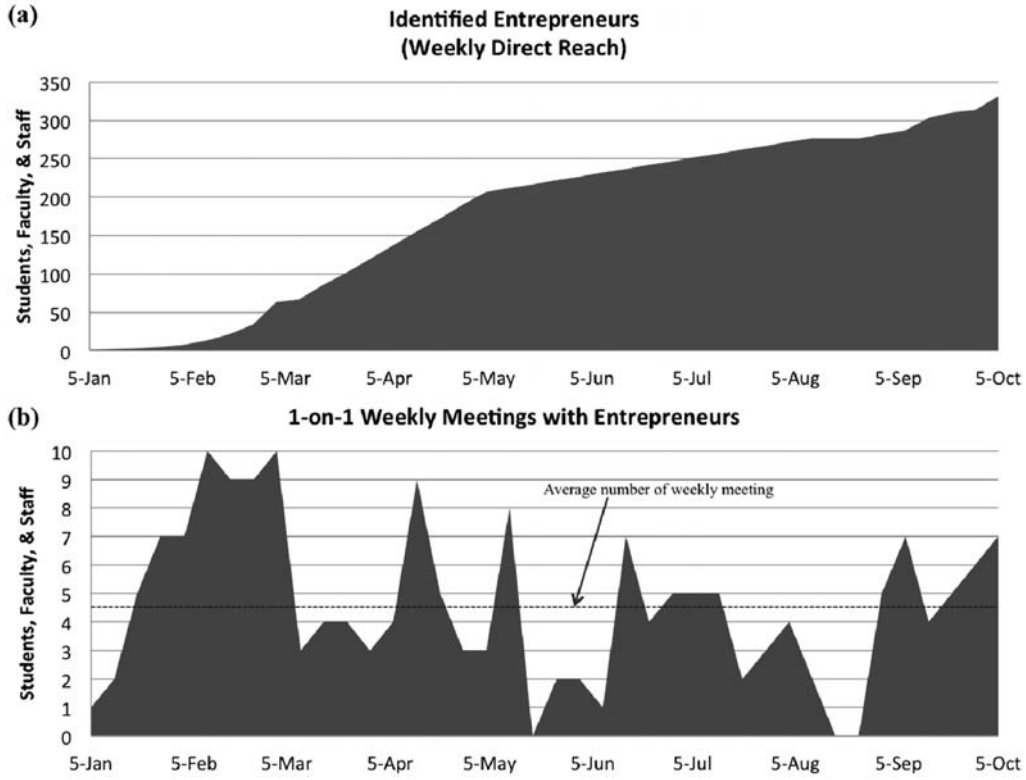

Fig. (9). EIR penetration rate into the UWM campus community.

SUMMARY

When forming a new EIR program, there are several key variables to consider. In many cases the choices made by the TTO will depend on the size of the university, size of the TTO, and the ultimate goals of the program. Are you aiming to create more faculty start-ups or student start-ups? Do you have easy access to area entrepreneurs and executives or are they hard to come by? Do you have room in the budget for paying EIRs? In Table **2** below, we summarize the most important variables to consider when forming your EIR program.

Table 2. Key considerations in forming an EIR program.

Questions
1. Number of EIRs to hire
2. Length of term for the EIR(s)
3. Percentage of time required by the EIR(s)
4. Amount the EIR(s) will be compensated
5. Duties to be performed by the EIR(s)
6. Sources for finding or attracting EIR(s)
7. Experience level of the EIR(s)
8. Code of conduct for your EIR(s)

DISCUSSION

Our main goal in providing this review is to give the reader a taste of what the general practices are at various universities that are currently running some flavor of entrepreneur-in-residence or executive-in-residence program. Clearly the type of program will depend on the TTO and university resources, the local talent or network available to the TTO, the current culture for entrepreneurs on campus, and the amount of time the current TTO staff can allot to such a program. We also want to stress that TTOs who are more recently focusing heavily on the promotion of entrepreneurship, might also benefit from the hiring of a more recent, less experienced entrepreneur who might even be a graduate from that very university. This approach is of great benefit to the students at the university who may relate better to a person they perceive as a peer. Seeing a young entrepreneur from their own university can provide the example which makes the student feel like “if he/she can do it, then maybe I can too”. Obviously a less-experienced entrepreneur must also be chosen carefully such that faculty will also be open to meetings and start-up guidance from someone that may be viewed more like a student to them. UWM has found that a confident, outgoing, and polished EIR, who knows their facts about the start-up resources in the local community, can still have a great impact even with our budding faculty entrepreneurs. When it comes to EIR programs, it is clear that one size does not fit all.

CONFLICT OF INTEREST

The authors confirm that this article content has no conflict of interest.

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SUPPLEMENTARY MATERIALS

Supplementary material is available on the publisher's web site along with the published article.

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