Campus Business Incubation

Best Practice Manual

Enterprise Ireland 2005

By Orla Byrne

"Incubators are places of communication and synergy, making them effective in numerous environments. They enable public and private stakeholders to gather around a common interest. They often are at the crossroads of important networks. They are also places of collective learning not only for the entrepreneurs but also for external stakeholders who come to appreciate the entrepreneurial reality better"

Albert, P., Bernasconi, M. and Gaynor, L. (2004)

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Foreword

Campus Business Incubation is a key part of Enterprise Ireland's strategy for regional development and entrepreneurship. The companies nurtured in this supportive environment will be ideally placed to contribute to regional wealth creation. Enterprise Ireland's incubator programme offers space and assistance to entrepreneurs who want to develop their businesses within the supportive structure of a college campus.

An investment of over €40 million in third level incubation facilities and specialised staff will establish a business incubation centre on the campus of almost every third level college in Ireland. The centres foster the development of high added value start-up companies arising from or associated with the host campus R & D resources. Enterprise Ireland, in partnership with the colleges, is committed to ensuring that the client companies receive the highest quality incubation environment and business supports.

The centre manager plays a vital role in incubation strategy and operations. This manual is a response to their request for guidelines on the early stages of incubator development and reflects international best practice in this area. I recommend the approaches described to all involved in incubation.

I look forward to continuing to work with our partners in the third level institutions to stimulate research commercialisation and to unleash Ireland's entrepreneurship potential.

Feargal Ó Móráin

Director, Corporate and Investment Services, Policy
and Applied Research and Commercialisation

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Campus Business Incubation – Best Practice Manual

Executive Summary

This manual presents best practice in incubation to managers of campus-based business incubators. It is the result of reviews of existing manuals of best practice plus interviews in Ireland with both new and established incubator managers. It addresses a number of key concerns of particular relevance to managers of early stage incubators and makes practical suggestions to assist new incubators in their establishment and development phases. These surround policy and procedural issues such as establishing an advisory board, developing a mission statement, evaluating different legal structures and understanding intellectual property and equity policies.

The manual also addresses a list of operational topics such as forming a relationship with the host institute, marketing the incubator, establishing selection and exit strategies for tenants, providing company support, and increasing networking within the incubator. The manual will be revised and updated as the incubators grow and mature.

From reviewing literature on best practices in incubation it is possible to say that best practice in business incubation means two main things. (i) Concentrating on the business development of incubating clients, not focusing on facilities management; (ii) Adopting a pro-active business development approach instead of a reactive response to client requests.

Managing a business incubator successfully is a difficult task due to the different demands that exist on incubator resources. Best practice recommends three specific Principles of Incubation. The incubator manager should:

i. Focus the energy and resources of the incubator on developing companies
ii. Manage the incubator as a business, i.e. minimise the resources spent on overheads and develop a self-sustaining efficient business operation
iii. Develop a sophisticated array of services and programmes that can be targeted to companies, depending on their needs and stage of development.

Incubators should develop policies and procedures to manage the centre and to ensure quality processes are implemented. The selection of practices outlined in this manual are complementary and will only have maximum impact if used in conjunction with each other. Summarised below are some of the key practices critical to the success of incubators.

Advisory Board

Every centre should have an advisory board. Ideally the board should be established before the centre starts operating. It should be established before the manager is appointed and play a role in that process. The ideal incubator advisory board provides strategic direction and leadership for the incubation centre. The composition of the board should change as the needs of the incubator change. The board should start off small and flexible in order to adapt to the requirements of the incubator as the centre itself grows.

The board should be composed of a mixture of individuals in terms of characteristics, background, and skills. Industry experts are essential; strong industry representation will better facilitate the commercial progress of the incubator. Its members can provide mentoring and access to their personal networks for incubating clients.

Mission Statement

A mission statement serves as the backbone of an incubator, as it provides the overall context for strategic decisions. An incubator mission statement should state the fundamental reason(s) for the incubator's existence. It should establish the range of incubator activities and provide an overall direction for the incubator. A good mission statement should be general, not specific. It should look to the future, not the present or past and it should reflect the incubator's unique strengths. Mission statements are not cast in stone; they should change over time.

License and Lease Agreements

There are three types of contractual agreements incubators tend to establish with client companies. These are lease agreements, license agreements and service agreements. These can be defined as:

- Lease agreement – a contract that grants a client an exclusive right to space in an incubator for a specific period in exchange for rent.

- License agreement – a contract that outlines services a client will receive, including use of space, and the license fees a client will pay in exchange for those services.
- Service agreement – a contract that delineates the services an incubator will provide and a client's obligations to make use of those services. The service agreement does not encompass real estate issues. Incubators occasionally execute them in addition to a lease or license agreement

Irish-based campus incubators tend to issue clients with license agreements. License agreements are more related to the use of the space rather than the rights of the tenant to the space. Service agreements are popular practice in US incubators.

Intellectual Property

Intellectual property (IP) should be considered in the context of the different types of clients of an incubator unit. Some clients may come from the associated third level institution and some may come from outside. Each may bring with them or create IP and different circumstances will arise depending on the source, ownership and type of IP.

Each higher level educational institution should have in place an intellectual property policy which clearly states the stake, rights, and responsibilities of the institution and its staff.

It is important for all those involved to have a clear understanding of IP as it is a complex legal area and expensive mistakes can be made by failing to understand the different forms of IP and how they operate in practice.

Innovations can be protected in a variety of ways. An IP policy does not just deal with inventions. Many other developments in colleges and campus companies such as, for example, software, may be protectable by copyright and secret know-how.

In general IP belongs to its creator, but where the creator is employed by an organisation, the IP belongs to the employer.

- **Patents:** Researchers in third level institutions should file patent applications through the college which as their employer is both owner and patent applicant of any inventions arising from work done in the college. In patent law the inventor can be separate from the patent applicant, thus inventors in colleges can be named on patent applications without the financial and legal responsibilities of patent ownership. Where a campus company has been incorporated, any inventions arising after the date of incorporation where the inventor is an employee of the company will belong to the company. Similarly for clients coming from outside. They may bring patent rights with them from the origins of the project, but ownership of later inventions will generally be within the control of the company in the absence of other contractual arrangements.

- **Copyright:** Copyright belongs primarily to the author or creator of an original work, but if the author is an employee, the copyright belongs to the employer. It is important therefore to identify authors of copyright work in software development.
- **Other forms of IP:** The general principles of ownership apply, i.e., the creator is the owner, but if the creator is an employee, the employer is the owner.
- **Joint Ownership:** Ownership of IP jointly by more than one organisation or individual is to be avoided as it can result is serious administrative difficulties and problems in commercial exploitation.

Commercial Exploitation

Commercial exploitation can take many forms depending on the type of project and type of IP. In general, commercial exploitation means that some organisation makes and sells a product or offers a service. It is from this that the revenue is obtained which rewards the owners of the IP.

In the case of a project originating in a college, it would be normal for the IP to be licensed or assigned to a commercial company. The technology may then be exploited by manufacturing or by licensing on to other organisations. Licensing is where a royalty or other payment is made for the use of the technology and IP. Assignment is where the ownership of the IP is transferred, usually as a commercial transaction with a payment for the purchase of the rights.

Role of the Centre Manager in IP

The centre manager should be in a position to give preliminary advice to clients concerning IP related issues, but is not expected to be a legal expert. He/she should be familiar with the college's IP policy and its implementation and should also have received sufficient training in

IP to be able to give some advice and to know when to refer clients to appropriate sources of professional advice or funding, for example, from the IP Unit of Enterprise Ireland..

The manager will have to distinguish between clients originating in the college and those coming in from outside. Each will have different ownership structures and may therefore be bound by certain policies or be free to operate without constraints.

It is important that the centre manager should be aware of issues of confidentiality concerning clients and their work so as to ensure adequate security in the building and to facilitate where required, meetings and disclosures to potential partners or investors under the correct conditions.

Equity

Incubation centres throughout the world are involved in equity and royalty arrangements with incubating clients. Taking equity in a company can represent a source of funds independent of rents, subsidies and income from services. However incubators should not depend on dividends from equity shares in their revenue streams as payment is not guaranteed.

Equity policy should be developed to: (i) manage or eliminate actual or perceived institutional conflicts of interest; (ii) safeguard against stock price manipulation or speculation; and (iii) avoid any adverse effect on the reputation of the college and its faculty, staff, and students.

The average equity stake taken by Irish incubators is 15% for spin out companies and 5-6% for external companies. This equity stake is taken as payment for the assistance companies receive from the incubators in the commercialisation process. Advocates of equity highlight its importance for future income, payment for services and assistance and attracting sponsoring companies. On the other hand some incubators have found it difficult to persuade external companies as to the merits of taking equity in their company.

Legal Structure

Most campus incubators in Ireland operate as part of the host institution with no separate legal identity. However, some institutions have decided to set up a separate company, either wholly owned or with other shareholders. There is much debate surrounding each model. There are both advantages and disadvantages associated with each approach. Table 1 highlights some of the characteristics of each approach.

Table 1. Two types of legal structure in Ireland

Separate legal company

- Operates as a separate commercial entity
- Greater autonomy to the incubator in terms of purchasing power and decision-making.
- Commercial body dealing with tenants (Companies may not seek same latitude with limited company as they might with a public entity)
- Can register for VAT (of most benefit with capital expenditure)
- Can subcontract services such as IT, services, facilities

As part of the college

- Operates as another department of the college
- Demonstrates unity between the incubator and the college
- Eliminates risk of them-and-us attitude throughout the campus
- Relies more on institution departments such as facilities, estates and IT for the operation of the incubator
- Ability to leverage costs by using resources and facilities of the college
- Purchase order numbers raised through the college finance department

Relationship with Host Institution

The success of this relationship is essential for the success of campus-based incubation. The incubator should be integrated into the college network and play a key role in driving entrepreneurial activity throughout the campus. Much can be gained from this relationship. Firstly, the incubator can leverage the resources of the college. These resources include IT, marketing, HR, finance, and support from the development office and the technology transfer office, as well as campus facilities such as childcare, sports and entertainment facilities. Incubating companies can collaborate with R&D activity within the college, access networks of specialised technical assistance providers, qualified workforces, specialised laboratories and equipment.

Best practice suggests numerous initiatives in which the incubator and institution can work together for the benefit of incubating companies. First and foremost it is recommended that the incubator manager should establish links with the Heads of Department or Schools and other senior faculty members. Through them relationships can be established with other institution staff, encouraging them to become involved by highlighting the benefits of the relationship.

Role of Incubator Manager

The success of an incubator is heavily dependent on the person appointed as incubator manager. The primary role of the incubator manager is to provide support to start-up companies. This is primarily through business assistance and advice and through ensuring high quality premises, services and facilities. However because of limited resources and the many demands on their time, the manager should focus on coordinating the delivery of good services and should work with other agencies that can provide complementary and additional services to client companies. Therefore the incubator must be part of a wider network in which companies can receive additional support.

In the US and in more established centres the role of incubator manager can be split into an incubator president and an operations manager. The incubator president/manager focuses their time on working with client companies, structuring governance procedures, and on developing early stage marketing of the incubator to the entrepreneurial community. The operations manager manages the business functions of the incubator and carries out day-to-day contact with the incubator company employees.

Viability/Resources

Each incubator must be self-sustainable in order to achieve its maximum impact. While host institutions absorb some of the costs of campus-based incubators, incubators rely primarily on cash flow from their own operations for income. Despite extensive services offered at US incubators, and separate charges for rents and business services, rental incomes are still the highest generator of revenue. However, incubator managers should always implement selective admission criteria even if there is strong pressure to achieve rental income. Incubators that rely on rental income alone to cover expenses can face difficulties. Incubators that take royalty revenue and equity shares in companies should not rely on the shares as sources of income but should treat the income as a windfall – if and when it does happen. Staff salaries are the largest operational costs of most incubation centres. However, a lack of staff is often the largest resource shortage in incubation centres.

Marketing

The incubator manager must be active in promoting the centre and recruiting companies from outside. Marketing strategies play a major role in incubator activity and tenant recruitment. Marketing objectives should always be set by members within the organisation as opposed to being set by an external marketing company. The marketing process should begin prior to the incubator opening. When developing a marketing strategy, it is important to set the objectives of the plan, to identify where the entrepreneurs' weaknesses lie and to show how the incubator services can assist with them.

For example, most entrepreneurs suffer from stress and isolation. Therefore, marketing of incubators should highlight how incubation can remove some of these worries. Priority must be paid to creating an accurate marketing plan, which must not oversell the services of the incubator. Once the objectives have been identified, the incubator manager must then identify what media should be used.

Selection Process

Incubators should have a formal selection process in place to ensure the quality of candidate in the incubator. The selection of companies should be aligned with the purpose and objectives of the incubator. Application processes are usually backed up by at least one face-to-face interview. Informing unsuccessful entrepreneurs as to why they were not accepted to the centre is another important part of the application process. Prospective tenants can sometimes be accommodated in enterprise training programmes or hot desk facilities.

Exit Strategy

Incubators should have procedures in place to encourage clients to leave as soon as they are capable. There are different strategies to nudge incubator clients from the incubation space. The most commonly used practices include: using time limitations, escalating rental rates and using graduation benchmarks. To guide the graduation process, managers should always ask two important questions:

- Does the company still benefit from a presence in the incubator?
- Does the incubator benefit (other than from rental income) from the firm being a client?

Companies should be aware of the exit policies of the incubator from when they first take space. The incubator should be involved in the graduation and relocation process. The average length of stay in Irish incubators is two years nine months.

Company Support

The scope of business support provided at incubators can range from pre-incubation services to providing support in raising finance. All forms of business assistance provided by an incubator present start-up companies with credibility and an increased opportunity for raising finance and creating stronger management teams.

The incubator resources are limited to providing only some of these in-house. The rest of these services are therefore typically contracted out to external companies. Business incubators across Europe provide most assistance with pre-incubation services, assisting companies to raise bank finance, grants and venture capital, and networking with other entrepreneurs. Incubators rely on external networks for more specialised services such as accounting and legal assistance, exporting and business skills development.

Some companies are likely to respond better to incubation support than others and seek it on a more regular basis. There are typically four different types of companies that exist within business incubators. These four companies are called: Superstars, Up-and-Comers, Anchor Tenants and Long Shots. There are two main groups for whom the incubation and co-production process is most successful and who frequently seek assistance (Superstars and Up-and-comers) and two main groups for whom it is less successful and who approach the incubator manager less often (Anchor Tenants and Long Shots).

Incubator managers can categorise companies and identify how their time and resources should be best allocated to assist each company (Table 4). Incubator managers can channel energy and resources to those companies whose productivity following assistance is likely to be highest.

Company Reviews

Incubators should have in place frequent reviews of incubatees. During this process incubator managers and sometimes a panel of experts meet with the companies to assess their progress and provide support, assistance and advice. Milestones or targets can also be agreed. Client reviews provide focus to both client and incubator actions, developing a monitoring process of the company's progress. These are opportunities for the incubator manager to assess client progress and opportunities for the clients to seek advice. Company reviews are useful for providing external insight to the operations of a business. The frequency of reviews can range from every two weeks to every quarter to every six months.

Networking

Networking is essential for the success of an incubation centre. There are two levels of networking within the business incubator environment. With the first, the incubator must establish its own network of contacts to assist in providing support, training and counselling for companies. The second role involves organising and facilitating networking opportunities for client companies.

The incubator manager must establish a strong network of contacts to supplement their own skills and knowledge. This is known as a Know-how network. While it may be difficult to establish this network when first setting up a business incubator, best practice suggests the process becomes easier once the incubator establishes its own identity and becomes an initiative worth being associated with.

The incubator manager should use the incubator advisory board, or use organisations that work with small businesses, as a starting point for the Know-how network. The manager should aim to gather a collection of experts who provide services to the incubator at a low charge or pro bono basis. These experts are an important component of the value-add associated with incubators, as it can be more difficult for external start-up companies to access these resources.

Virtual Incubation

Companies who wish to avail of business support services within the incubator, but who do not wish to locate there, can avail of a concept called virtual incubation. Through virtual incubation, businesses too big to join the incubator, or who do not fit the stringent entry criteria for the limited space available in the incubator, can still benefit from the incubation process. Unlike consultancy, virtual incubation is pro-active and works by identifying and adding long-term value. For a small monthly charge, virtual incubator clients can receive a wide range of services. For example:

- Access to conference rooms and office equipment at the incubator facilities
- Option to utilise any of the incubators networks of contacts
- Inclusion of company information on the incubator website

Incubator Evaluations

Evaluations should be carried out on incubation programmes to identify key areas where improvements can be made. Evaluations identify where the incubator is performing well, and performing poorly. Incubator evaluations should involve all stakeholders including entrepreneurs and sponsors. The evaluation goals and questions that must be answered should be determined before conducting evaluations. In order to assess performance, the same questions should be asked consistently over a period of time.

Gender Equality

The Programme Complements of the regional Operational Programmes measures to fund Institute of Technology incubation centres require that:

- Colleges promote access to female entrepreneurs where possible;
- Gender equality will be a criterion in project selection;
- Gender-disaggregated employment data in enterprises will be collected.

Incubators can play a role in achieving gender equality through implementing the following practices:

- Establishing gender mainstreaming when developing policies
- Keeping statistics on female applicants and clients
- Ensuring balanced gender representation on recruitment and selection panels
- Providing a balance of women mentors
- Providing access to childcare facilities on campus
- Celebrating success of female entrepreneurs
- Gender balance in promotion of activities (who is the face of the organisation? Do you include both men and women speaking at each event?)

Health and Safety

Each business incubator is required to have in place a clear and precise health and safety policy (H&S). It is also a requirement by company law, that start-up companies have H&S documents in place. Many business incubators are covered under the H&S policy of the host institute. Incubators should share this information with incubating companies who can use the information as a template for developing their own policies.

Introduction

Business incubation is developed to assist entrepreneurs in the formation and development of new enterprises.[1] It is also developed to increase the likelihood of these firms' growth, survival and success. Therefore, the goal of incubation is to produce successful companies who will leave the business incubator with essential business development skills. Additionally, business incubation centres are developed to:[2]

- Increase the rate of new business formation
- Measure the rate of survival and the success of new enterprises with a view to diminishing their failure rate.
- Increase the rate of development of new enterprises by helping them grow faster and more efficiently
- Increase the efficiency of the dissolution process if a firm fails.

The main feature distinguishing business incubation programmes from office space rental is the level of assistance and management services provided to add value to the incubatees. Business incubators accelerate the development of start-up companies through an array of business support services. These are organised by the incubator manager and are delivered by the incubator staff or by their network of contacts.[3]

It is widely recognised that incubators simply providing space and general support services are considered less effective than incubators actively involved in identifying and brokering expertise and providing intensive business assistance.[4] Incubators do not simply provide phone answering or conference room services, but provide advice on every aspect of a start-up business. They bring together specialised resources dedicated to supporting and assisting early stage start-up companies before and during their formation.[5]

Common benefits of incubators include flexible accommodation space, administration services, training, individual coaching, strategic and technical advice, access to networks, access to business advice, linkages to business networks and access to a community of peers.

Campus-based incubation has existed in Ireland since the early 1980s at the University of Limerick, Trinity College Dublin and University College Dublin. The new wave of campus incubation funding began in 1997 when Enterprise Ireland launched the Third Level Business Incubator Initiative.

This supported incubators at University College Dublin, Dublin City University and National University of Ireland Galway campuses. Incubators at Sligo, Dundalk and Letterkenny Institutes of Technology were developed in the late 1980s as part of development initiatives in the border region.

In 2000, as part of the Borders Midlands and West (BMW) and Southern and Eastern Regional Operational Programmes of the National Development Plan (2000-2006), a programme of support was launched for the development of incubators in the remaining Institutes of Technology (ITs). This also included refurbishments and extensions to the existing IT centres. The establishment of business incubators at the ITs is a key part of Enterprise Ireland's regional development and entrepreneurship strategy.[6]

Following capital investment, a decision was made to carry out research into business incubation practices in Ireland in order to provide a template for the new and developing business incubators. Work on the Manual of Best Practice began in November 2004. The context and form of the manual was determined in December 2004 following consultation with the Irish incubator and enterprise development community.

This report is based on research with incubator operators throughout Ireland. The first stage of the research process identified the needs of Irish incubator managers and enterprise enablers. This was achieved through interactive focus group sessions that were attended by incubator managers, managers of enterprise training programmes and Enterprise Ireland staff. Here managers identified a number of practices critical to the success of incubation.

The next stage of the research process reviewed existing literature on incubation. Information and examples of best practice were gathered on each topic surrounding the development of successful business incubators. Fieldwork was then carried out through interviews with 14 incubator managers and managers of enterprise development programmes in Ireland. The interviews were carried out with incubator managers in universities and Institutes of Technology.

The research interviews were semi-structured in style. Each manager was asked questions surrounding incubation policy, operations and approaches to company support. The information was then compiled on a topic by topic basis and evaluated to provide the most appropriate and innovative examples of best practice. This research highlighted best practices in a number of key areas. The most important of these are highlighted in the following chapters.

The following institutions participated in this research. Details for each incubator are available on the Enterprise Ireland website www.Enterprise-Ireland.com

Educational Institutions

- Athlone Institute of Technology (AIT)
- Letterkenny Institute of Technology (LYIT)
- National College of Ireland (NCI)
- Dublin Institute of Technology (DIT)
- University College Cork (UCC)
- Galway Mayo Institute of Technology (GMIT)
- Institute of Technology Tralee (ITT)
- Waterford Institute of Technology (WIT)
- Institute of Technology Sligo (IT Sligo)
- Institute of Technology Tallaght (IT Tallaght)
- Dundalk Institute of Technology (DKIT)
- Cork Institute of Technology (CIT)
- Dublin City University (DCU)
- University College Dublin (UCD)
- Trinity College Dublin (TCD)

There are two main sections to this manual:

(i) Policy and strategy issues which are central to the success of start-up incubators. Topics here include information on establishing an advisory board and developing its role; developing a mission statement; deciding on the legal structure; preparing Intellectual Property policy; deciding on equity policy; and forming the license/lease agreement.

(ii) A road map for incubation that includes information on operational issues such as developing an operations policy document; establishing successful relations with the host institution; forming selection and exit criteria; creating a successful marketing strategy; investigating the viability of incubation; identifying crucial company supports; networking guidelines; company reviews; and incubator evaluations.

Each topic includes a general discussion and recommendations based on findings from existing research and manuals. Each section also includes examples of good practice from international incubators (based on findings from the research) and good practice from Irish incubators (based on research with Irish incubator managers).

Policy and Strategy

The purpose of policy is to guide decision makers in fulfilling objectives and establishing rights and responsibilities.[7] Each business incubation programme should have a set of policies and procedures, which are used as rules to manage the centre. Incubation policy cannot address every situation that may arise in the development and management of the incubator. Rather policy is intended to set minimum requirements for incubator stakeholders, incubator staff, and faculty staff.

The policy and strategies commonly developed for business incubators are the result of fifty years' research and innovation in the area. Incubator policies help an incubator operate in such a way that it will achieve its objectives and become an environment of support and service for start-up companies. It is important that these policies and procedures are outlined from the start of operation. Well thought out policies can save the incubator difficulties in future operation, while less well planned policies can cause problems and lead to difficulty.

The incubator's board of advisers collaborates with the incubator manager in developing the necessary policies and strategies. Publicly funded incubators must usually adhere to additional policies as requested by the state agency administering funding. In the Irish context, that agency is Enterprise Ireland (EI). Incubators and host institutions are required to have intellectual property and campus company policies in place, to establish an incubator advisory board and to develop appropriate operational procedures. The following policy and strategy topics are addressed in this section.

- Advisory board
- Mission statement
- License and lease agreements
- Intellectual Property
- Equity and royalties
- Legal structure

Advisory Board

Each incubation centre should have in place an active and enthusiastic advisory board. The advisory board provides strategic direction and leadership to the incubation centre. The board is responsible for approving major policies and establishing strategic objectives.

Ideally the board should be established before the centre begins operation and before the manager is appointed. The board can play a role in that selection process and provide support to the managers in performing their duties. Its main role is to ensure an incubator achieves its mission. It is also responsible for:[8]

- Developing and updating a strategic plan for the incubator;
- Serving as the liaison with government representatives for publicly supported incubators;
- Marketing the incubator to potential stakeholders and client businesses;
- Supporting the incubator manager in establishing and managing the professional services network, mentor network and investor network;
- Supporting the operation of the incubator and monitoring incubator budgets;
- Supporting fundraising activities;
- And supporting the development of successful client businesses.

Literature of best practice from the US and Europe suggests that the composition of the board should change as the needs of the incubator change. It recommends that the board should start off small and flexible in order to adapt to the requirements of the incubator as the centre itself grows. The board should be composed of a mixture of individuals in terms of characteristics, background, and skills. Ideally, each incubator advisory board should include the following people:[9]

- Leaders or champions with clear vision of the incubator's mission. They have the capacity to motivate and sustain the board's commitment to the incubator
- Networkers or professionals with investment and professional services expertise and community connections
- Business services and estate management professionals who can assist the director with facility operations and management
- Service providers and mentors who can advise client businesses and facilitate good use of resources
- Venture capitalists, angel investors and bankers who understand new venture equity and debt financing

- Entrepreneurs who have developed successful ventures and who can ensure that the incubator's services are responsive to its clients
- Technologists who can assist the manager in evaluating the technical components of a new venture applying for assistance from the incubator

Each Irish campus incubator has an advisory board. As with international incubators these boards advise on incubator policies and procedures; assist the incubator manager by complementing and augmenting their resource base; and provide their network of contacts to contribute to the operations of the centre. Advisory boards should be used in a supportive and resourceful capacity and should play a key role in the development of the companies.

Irish campus incubator advisory boards typically comprise industry experts, educational institution representatives and regional business and development agency representatives. The inclusion of industry experts is essential as over time the incubator manager will need industry experience, commercial advice and access to funding for client companies. Board members can also provide innovative industry focused strategies and have access to a wide pool of resources. Strong industry representation is essential for facilitating the commercial progress of the incubator.

Advisory boards of newly developed incubators in Ireland tend to meet once every two months on average. Boards of more established business development centres tend to meet less frequently, twice or three times per year. More frequent meetings are widely recognised as having greater consequence for the incubator. Some advisory boards also form sub-committees to deal with specific issues. These committees can deal with tenant selection, intellectual property or specific support. Below are some examples of the role and make-up of Irish incubator advisory boards.

Irish Examples of Best Practice – Advisory Boards

The advisory board of ICELT at National College of Ireland is made up of entrepreneurs (tenants), business leaders, representatives from large corporations (Intel and IBM), VCs, Enterprise Ireland and senior NCI management.

The board of advisers at the Midlands Innovation and Research Centre (Athlone IT) comprises representatives from the Institute, Enterprise Ireland, the BMW regional assembly, high profile industrialists and entrepreneurs and an international enterprise academic. Their role is to ensure the incubator operations remain in line with the strategy and policies they have established. They also review the incubator’s financial solvency and funding possibilities.

The board has formed a sub-committee called the Centre Operations Committee who manage new-client enquiries on a needs-be basis. They then inform the board of any new clients at the bimonthly board meetings. The board also helps companies in raising finance. Together with the incubator manager, Investment Forums are organised for each specific company. The board invites their extended networks to attend with the intention of establishing an investment portfolio for the company.

Mission/Vision/Passion Statement

Best practice has found that a mission statement serves as the backbone of an incubator, as it provides the overall context for strategic decisions.[10] Because of their importance, mission statements should be developed as soon as possible in the development of the incubator.

An incubator mission statement should state the fundamental reason(s) for the incubator's existence. It should establish the range of the incubator's activities and provide overall direction for the incubator. If prepared correctly it should act as a foundation for developing goals and objectives and as a precursor for the incubator's strategic plan.[11]

There are a number of things to remember when preparing an incubator's mission statement. If the mission is too broad, the purpose of the centre may be lost; and if it is too narrow, the centre may be limited in its ability to attract sufficient companies. A good mission statement should look to the future, not the present or past; and it should reflect the incubator's unique strengths. Round-table discussions with stakeholders are important for creating a flow of ideas.[12] The group should then agree on the general purpose of the incubator, decide what groups and markets the incubator should serve, and decide the scope of the incubator's activities. A mission statement is best prepared by asking a number of important questions that will focus discussions. These questions will help identify the most important elements of the mission. Good questions to ask include:

- What is the incubator's general purpose?
- Who are the primary constituents?
- Who are the competitors?
- Who are the allies?
- What is the state of the industry?
- Who are potential funding sources?
- Is the political climate conducive or restrictive for business?
- What is needed in terms of people, money, resources, and equipment?

While the strength of the vision statement is influential in the success of any incubating programme,[13] mission statements are not cast in stone. Best practice suggests they should change over time. They are usually developed at the start of operation where there may be a certain amount of guessing involved. As the incubator becomes more experienced, the statement may be easier to revise. If drastic changes that are not aligned to the mission occur to the incubator, the incubation team should review the specific action and not the mission statement.[14] An evaluation procedure can involve comparing accomplishments to the mission statement to determine whether the incubator is on track.

Within the Irish context, each incubator has developed a mission statement. The mission statements have been prepared by the incubator manager, institute director and advisory boards. In other instances, the mission statements were created by the advisory board and agreed to by the incubator staff, or were developed by incubator staff and approved by the board. More established incubators in the process of recreating their identity and approach to incubation are also establishing new mission statements to match their change of objectives.

The extent to which the mission statements are used varies from centre to centre. For many, they are referred to mostly during goal setting exercises and less frequently during day-to-day operations. For other incubators they are referred to more frequently where they are used as a roadmap, guide and motivator to deliver quality practices within the incubator. Below are samples of mission statements from different incubators.

Irish Examples of Best Practice – Mission statements

The Tom Crean Business Centre at IT Tralee mission is to create a business environment which will attract, incubate and grow successful indigenous technology based enterprise, research and development.

The mission for Invent at DCU is: Transforming knowledge into commercial success.

The Midlands Innovation and Research Centre at Athlone IT anchors on the mission: Pioneering Innovation Today, Generating Growth Tomorrow.

NovaUCD's vision is to become an international leader in the commercialisation of research and other knowledge intensive activity for the benefit of the economy and society as a whole.

License and Lease Agreements

There are three types of contractual agreements incubators tend to establish with incubatees. These are lease agreements, license agreements and service agreements. These can be defined as:[15]

- Lease agreement – a contract that grants a client an exclusive right to space in an incubator for a specific period in exchange for rent.
- License agreement – a contract that outlines services a client will receive, including use of space, and the license fees a client will pay in exchange for those services.
- Service agreement – a contract that delineates the services an incubator will provide and a client's obligations to make use of those services. The service agreement does not encompass real estate issues. Incubators occasionally execute them in addition to a lease or license agreement.

Table 1 below identifies further the purpose of each of these agreements and the topics they should include.

Table 1. Topics covered in contractual agreements

Lease Agreement	License Agreement	Service Agreement
Rental rate per square foot of space	Can be used instead of leases to govern use of space	Outlines business advisory and other services provided
Length of time a client may stay	Recognises space as one of the services the incubator provides, along with business advisory services, access to mentors or other resources	Outlines client obligations to utilise the services
Actions that constitute default of the lease's terms on the part of the incubator and client		Identifies the incubators programmes and services
What remedies are available in the event of either party failing to meet its obligations		Includes client responsibilities such as providing financial statements, and achieving objectives
Includes clauses re: security deposits, utilities, taxes, insurance requirements, parking sites and regulations		Service costs and payment details
Can also include clauses or an attachment describing the availability and cost of business assistance services		Confidentiality assurances
		Indemnification clauses
		Equipment repair and maintenance information
		The term of the agreement

Although differences exist between lease and license agreements, there are a number of key topics which should be included in both. These include:[16]

- The amount of space a client company may access
- Security deposit and the amount of money a client will pay for space
- Additional charges for use of facilities, equipment, etc
- The term of the agreement
- Insurance requirements, including what losses the incubator's insurance covers and any minimum coverage the incubator requires clients to carry, especially on personal property

- What constitutes default (eg a client's failure to pay rent or license fees) and what to expect if the incubator or client fails to meet its obligations under the agreement
- Who can terminate the agreement and for what reasons
- Who makes and who pays for repairs and alterations to space
- Rights to common areas
- Janitorial service obligations
- When clients can enter and leave the building
- Graduation requirements
- Remedies for landlord or licensor and client
- Any other restrictions or rules on use of the premises
- Information on insurance

There are also a number of key clauses that should be included in an incubator lease or license agreement:[17]

- A clause specifying that the incubator will not be held liable of it cannot give the client access to its space by the lease start date.
- A clause in which the client agrees that the incubator will provide advice and services but will not be held liable if the client's business fails or if the advice turns out to be bad.
- A severability clause which means if one or more of the lease clauses turns out to be unenforceable for any reason, the rest of the document still applies.
- An entire agreement clause, which states that the document and its attachments comprise the only agreement between the two parties.

Incubators can include business service pacts as part of a lease agreement or they can outline the assistance provided in separate service agreements. Service agreements deal exclusively with incubation services and explain the business and office support services available. Service agreements can also include cost requirements that may accompany the services as opposed to office space. By establishing a separate services document incubators highlight the importance of incubation services.

The agreement can also be used as a contract for non-resident clients, especially for companies availing of virtual incubation (see page 82) or incubation without walls. Alternatively the service agreement can be used to market the incubation programme. It can be designed as a promotional tool highlighting the services, supports and facilities that differentiate the incubator from regular rentable office space.

Much debate surrounds whether incubation centres should issue lease or license agreements. The final decision is usually reached based on the main difference between lease and license agreements. That is, lease agreements grant an interest in real estate. This generally means granting an exclusive right to use a particular space. A license agreement on the other hand grants a personal privilege or permission to use space and or services. It means the licensor can change at will or on very short notice the space and services it provides. License agreements also include a clause that if a client defaults, the services and access to space are terminated immediately.

Irish-based campus incubators tend to issue clients with license agreements. There is a common feeling that license agreements allow greater rights to the incubator, especially should they require clients to leave. However, incubator managers find it is also easier for incubatees to terminate a license agreement than a rental agreement. Most Irish incubation centres grant space for two years nine months to three years, under the condition that there be an annual review of the contract. This duration can vary for bioincubation space, where there is a common understanding that biotechnology can take enterprises a longer time-frame to develop.

While service agreements are popular practice in the US, they are less commonly found in Ireland. A number of Irish incubators have established an operations policy (which outlines the facilities and services of the incubator) for promotional purposes, but much less so to accompany the lease or license agreement. Below is a selection of Irish incubator policies regarding leases and licenses.

When signing lease or license agreements companies can sometimes be asked for a security deposit or bond. This occurs mostly with wet-lab incubators. The deposit protects the incubator and secures against damages to the facilities. Other incubators consider this policy counter innovative as securing the deposit may cause cash flow difficulties for the companies. Instead they require companies to sign a mutually agreed inventory list with the incubator manager, which protects the incubator equipment and facilities.

Irish Examples of Best Practice – License

Clients at ICELT, National College of Ireland have the option of a 100-day or a 1000-day license agreement.

NovaUCD issues a license agreement to their clients. The licence is originally signed for one year and is renewed on a quarterly basis thereafter. The licence is extended to a maximum of 2 years and 9 months unless either party decides to terminate the agreement.

Tenants at the Business Development Centre, Letterkenny IT, are granted a one-year lease and a two-year renewal lease. They must move out after three years.

Client companies at the BioInnovation Unit at UCC agree to sign an inventory list with the incubator operators prior to taking space. The inventory list identifies the state of facilities and equipment of their incubation space and protects UCC against damages.

Intellectual Property

Intellectual property (IP) should be considered in the context of the different types of clients of an incubator unit. Some clients may come from the associated third level institution and some may come from outside. Each may bring with it or create IP and different circumstances will arise depending on the source, ownership and type of IP.

Each higher level educational institution should have in place an intellectual property policy which clearly states the stake, rights, and responsibilities of the institution and its staff.[18] A good IP policy will encourage innovation yet remove any grey areas by clarifying issues of ownership, rewards and publication. It also clarifies how commercial exploitation can take place and how the IP office will return rights to the inventor if they decide not to take a product forward.

It is important for all those involved to have a clear understanding of IP as it is a complex legal area and expensive mistakes can be made by failing to understand the different forms of IP and how they operate in practice. The forms of IP are:

- Patents are used to protect inventions i.e. new products or processes containing a new principle or idea. The inventions must be new and inventive and capable of industrial application (i.e. useful). Patents give monopoly rights to their owners which cover the making, selling and using the invention. In recent years patents have become very expensive. It is advisable to obtain granted patents in the countries where the invention is to be exploited.

- Copyright is the right to copy an original work. While formerly intended to protect the authors of literary and dramatic and artistic works, it has now been extended in practice to include most forms of reproduction of original works and can cover a diverse range of products including software.

- Registered Designs protect the aesthetic features of a product, i.e. a new shape or configuration, but do not give any protection for functional features.

- Unregistered Design Rights are a special purpose form of industrial copyright in three dimensions and only exist in the EU at present.

- Trade Marks are distinctive names for products or services and are used to make a connection between the promotion of the goods or services and the supplier. They can acquire considerable importance because of the goodwill they protect.

- Know-how is secret or proprietary information of commercial value. It is protected by being kept secret rather than by any of the statutory legal systems above.

It can be seen from the above that innovations can be protected in a variety of ways. An IP policy does not just deal with inventions. Other developments in colleges and campus companies, for example, software may be protectable by copyright and secret know-how.

Ownership of IP

In general IP belongs to its creator, but where the creator is employed by an organisation, the IP belongs to the employer. Thus a client coming from a college may be working on a project where the IP is owned and controlled by the college's IP policy, while a client coming from outside may have total ownership and control of their own IP and may or may not decide to use the college's expertise and facilities to advise and assist them in this area.

- **Patents:** Researchers in third level institutions should file patent applications through the college which, as their employer, is both owner and patent applicant of any inventions arising from work done in the college. In patent law the inventor can be separate from the patent applicant, thus inventors in colleges can be named on patent applications without the financial and legal responsibilities of patent ownership. Where a campus company has been incorporated, any inventions arising after the date of incorporation where the inventor is an employee of the company will belong to the company. Similarly for clients coming from outside. They may bring patent rights with them from the origins of the project, but ownership of later inventions will generally be within the control of the company in the absence of other contractual arrangements.
- **Copyright:** Copyright belongs primarily to the author or creator of an original work, but if the author is an employee, the copyright belongs to the employer. It is important therefore to identify authors of copyright work in software development.
- **Other forms of IP:** The general principles of ownership apply, i.e., the creator is the owner, but if the creator is an employee, the employer is the owner.

- **Joint Ownership:** Ownership of IP jointly by more than one organisation or individual is to be avoided as it can result in serious administrative difficulties and problems in commercial exploitation.

Commercial Exploitation

Commercial exploitation can take many forms depending on the type of project and type of IP. In general, commercial exploitation means that some organisation makes and sells a product or offers a service. It is from this that the revenue is obtained which rewards the owners of the IP.

In the case of a project originating in a college, it would be normal for the IP to be licensed or assigned to a commercial company. This may be a campus company which does further development work and adds to the portfolio of IP. The technology may then be exploited by manufacturing or by licensing on to other organisations. Licensing is where a royalty or other payment is made for the use of the technology and IP. The licensee who uses the technology gets the benefit of the protection which has been obtained by the developer or owner of the IP. Assignment is where the ownership of the IP is transferred, usually as a commercial transaction with a payment for the purchase of the rights.

Technology Transfer from Third Level Institutions

Technology transfer can operate at a number of levels. Firstly for technology developed within a third level institution, it may be transferred it to the client of the incubator unit. The technology may be further developed and added to and then transferred to other commercial organisations. Technology may also be sourced from outside and so a package of technology and IP may be built up in the case of complex projects.

This section addresses some recommendations for establishing successful commercialisation and technology transfer processes within third level institutions. The technology transfer offices and development offices of higher educational institutions play a multifunctional role in the commercialisation process. The offices focus on maximising revenue, on staff satisfaction, and on facilitating and assisting the development of IP. However, US recommendations suggest that in order to successfully facilitate commercialisation the offices should have a narrowly defined focus and prioritise their duties.

Prioritising the function of the technology transfer office can be determined by examining the ways in which the office itself is evaluated. Different evaluation possibilities include measuring success in terms of revenue generated; in the number of deals achieved; or, in the number of disclosures processed. However, the most consistently successful technology transfer offices are those that focus on staff satisfaction. These offices tend to be more adventurous in the projects they support.[19]

The technology transfer office staff are an integral factor of its success. The staff must accept risk, and have a pro-innovation approach. Experts recommend that a diverse team, including people from different disciplines, recent graduates, and retired people is important for maintaining a fresh outlook.[20] They should treat staff in a way that encourages them to innovate. As one expert said: "*If it doesn't, they'll say: 'Why bother?'*[21]"

The director of a technology transfer office should also be competent in articulating their office's mission and practices. It is recommended that they have a background in industry, since they are responsible for bridging the gap between the industrial and academic worlds. They should be good dealmakers, with experience in licensing.[22] The director should also be a *people* person since he or she will work with inventors (potentially fragile people, who are bringing their life's work to the table), administrators, potential licensees, attorneys, and others.

Technology transfer administrators should consider long-term goals when developing IP policy[23]. IP policies must encourage faculty to innovate by reducing hurdles to innovation. This is of particular importance in educational institutions where there is a poor history of entrepreneurship. In this instance the institution is encouraged to invest in building morale and in encouraging staff to want to invent.

The commercialisation approach should focus on sharing equity and on building a win-win situation. As one expert claimed: "It's okay to be tough with the big companies – they're used to negotiating. But with staff and students, it's more productive to educate and encourage." [24]

Clear communication is the most important element of the technology transfer process. The written policy should spell out solutions to a variety of potentially hazy issues. However, the flexibility and openness of the technology transfer staff may be even more important than what is written in the document.[25]

A report prepared by the Irish Council for Science Technology and Innovation (ICSTI) on Intellectual Property Management recommends that each Public Research Organisation (PRO) should establish a strong technology transfer office. Their primary responsibilities should include:

- Identifying, evaluating and protecting IP
- Advising on commercial and IP issues in research contracts
- Planning and executing commercialisation strategy
- Marketing innovations
- Negotiating exploitation and other technology transfer agreements.

Irish universities have technology transfer offices that play a key role in the IP transfer process[26] and have guidelines for managing IP. Most universities have established policies in place since the 1990s. IP policy is incorporated into university contracts of employment, highlighting that IP established as a result of research using university resources belongs to the university.

The technology transfer office should also promote the technology transfer process throughout the campus. Workshops and publication of articles, emails, newsletters or internet articles are all effective ways of increasing awareness of IP. The technology transfer office should establish formal procedures to handle the IP process.[27] The different stages involve identifying new commercial opportunities, disclosing technologies, commercially evaluating ideas, protecting ideas by patent filing, and commercialising technologies.

Under the funding requirements of the Campus Business Incubation Space initiative, each Institute of Technology must have an IP policy in place. The most commonly practised policy among IT incubators is the Draft Intellectual Property Policy for the Institutes of Technology, which is developed by the Council of Directors of the Institutes of Technology. Institute of Technology Development Offices carry out the role of a technology transfer office. The institute claims ownership of all inventions by members of the institute. ICSTI recommends every Public Research Organisation (PRO) should clearly state this in formal policies. The legal ownership should also be included in written agreements and be acknowledged and agreed to by all staff.

Under this policy the inventor must report the invention to the institute Development Office by completing an Invention Disclosure Form. The process evaluates the disclosure, protects the invention, and commercialises the work. The inventor/developer is expected to assist the development office in processing the invention and in furthering the development and commercialisation process. There are a number of options for how best the invention can be commercialised. There are also a number of ways in which the revenues can be divided. The Council of Directors recommend the following commercialisation approaches:

- Transfer ownership to a commercial entity based on professional valuation of the IP (governing body approval required).
- Assign IP to a campus company (governing body approval required).
- License the IP on an exclusive basis or a non-exclusive basis to a commercial entity
- The institute takes equity in a company specifically formed to exploit the IP. The equity stake should not exceed x% of the company equity and shall not be less than x% at the time of an IPO or sale to a third party.
- Negotiate a royalty fee linked to revenue.
- Incorporate an options clause to buy x% of the company at nominal cost.

The Council did not specify the exact percentage equity that the institute should take in the company formed to exploit the IP. This is because there are a range of scenarios in which different percentages might be required. In some cases 10% has been used as a guide but it depends on how close the technology is to commercial exploitation, the cost, strength and value of the IP, and the value of other inputs to the company.

The company could be merely a patent holding company with few assets other than patents or it could be a manufacturing company where there would be a significant investment in fixed assets and working capital. If the promoters were college employees the college might hold a higher stake than if outsiders were to take it over. The point concerning an IPO (Initial Public Offering) i.e., a sale of the company or part of it, concerns the requirement that the institute’s share should not be diluted if other investors come in. Typically, there can be a number of funding rounds and in many cases the original shareholders can see their stake considerably reduced.

With sponsored research agreements, the sponsor may be offered an option to license certain rights to potential innovations from the institute. Under these agreements, the institute normally requires that the innovation be assigned to the institute. Should the institute have no interest in the invention, it should be returned to the inventor. ICSTI recommends that policies and contracts should clearly state the approach to royalty sharing and equity-based commercialisation income.[28] It recommends that financial incentives should:

- Include the correct groups i.e. the inventor, department and PRO
- Be clear and publicised
- Be fair and treat all inventors in a similar way
- Reflect the returns that are generated
- Be sufficiently large and timely in order to have an effect on behaviour
- Legislate for inter-PRO collaboration

The Council of Directors recommends that ITs establish an intellectual property committee. The committee can administer IP related issues and review IP policy as legislation and commercial development evolve.[29] The committee can assist the Development Office in drawing up the IP policy. It should provide professional expertise to staff and students. It should advise on appropriate means to best develop innovations, in ways that will not conflict with the institute guidelines.

The committee's role is to manage IP on behalf of the institute. It must evaluate options in relation to the protection and commercialisation of IP and conduct negotiations with third parties on IP transfer or exploitation. The committee also has to file patent, and other applications, ensure a fair and equitable financial return for the owner of the IP and provide a fund to finance patent and other applications.

The IP committee should be made up of the College Director, the Head of Development, the Financial Controller, the appropriate Head of School, an expert in the field of technology and a legal adviser or patent attorney.

As the Institutes of Technology cover costs associated with the commercialisation of inventions, income from royalties will not be available until these costs are covered. Once costs are covered, all income derived should be distributed between the inventor, the inventor's department and the institute. The percentage devoted to each should be determined in each particular case by the Institute governing body following recommendations made by the IP committee.

ICSTI also advises the Public Research Organisation to support academic staff who are engaged in IP commercialisation. This can be through providing additional time to engage in IP-related activities, relieving staff of particular duties for a specified period of time and linking IP-related activities with career advancements.

Technology transfer specialists must be aware that the commercialisation process has potential for conflict of interest. ICSTI recommends that policy should alert staff in recognising when these conflicts can arise. Staff should also be advised on how best to manage and resolve conflict when it arises. These are important to encourage full disclosure of research and to open discussion between the institute and the technology transfer office.

In order to ensure the IP process is carried out as effectively as possible, ICSTI also recommends that the technology transfer offices establish monitoring and evaluative procedures to strengthen their practices. Correct implementation of evaluation and monitoring procedures illustrate that the PRO is managing its IP effectively. They can also identify problems and opportunities related to the management of IP. ICSTI recommends carrying out these procedures on an annual basis. Evaluation can include:

- Number of invention disclosure forms
- Number of patents filed
- Number of licences or technology transfers involving patents and IP
- Type of licences – existing company, new or spin-out company
- Numbers of fulltime equivalents in the technology transfer office
- Numbers of contacts made and opportunities presented to companies

Role of the Centre Manager in IP

The centre manager should be in a position to give preliminary advice to clients concerning IP related issues but is not expected to be a legal expert. He/she should be familiar with the college's IP policy and its implementation and should also have received sufficient training in IP to be able to give some advice and to know when to refer clients to appropriate sources of professional advice or funding, for example, from the IP Unit of Enterprise Ireland.

The manager may have to distinguish between clients originating in the college and those coming in from outside. Each will have different ownership structures and may therefore be bound by certain policies or be free to operate without constraints.

It is important that the centre manager should be aware of issues of confidentiality concerning clients and their work so as to ensure adequate security in the building and to facilitate where required, meetings and disclosures to potential partners or investors under the correct conditions.

Irish Examples of Best Practice – IP

NovaUCD is responsible for the implementation of the UCD policies relating to IP and the provision of advice on the protection and exploitation of IP resulting from UCD research. NovaUCD works closely with UCD researchers and innovators to ensure the successful commercialisation of IP. Through NovaUCD, the university has adopted a coherent approach to the commercialisation of its research programmes.

The Midlands Innovation and Research Centre at Athlone IT has established a new IP policy and IP committee. Previous to this, responsibility for IP negotiations rested with the relevant academic department. Now the committee provides greater accountability and a more successful realisation of the value of the IP. The committee consists of the Head of Development, Head of Science, Head of Engineering, a sector researcher, the External Services Manager, incubator manager and a student member. The committee enters negotiations with the companies until an understanding is reached. This process can incur high legal costs, but these are considered a necessary expense.

Equity and Royalties

Incubation centres throughout the world are involved in equity and royalty arrangements with incubating clients. Taking equity in a company can represent a source of funds independent of rents, subsidies and income from services.[30] Some incubators take equity in a venture as partial consideration for the college's contribution in commercialising an invention.[31]

Taking equity in a client company usually involves obtaining part ownership of the company. Therefore, equity is seen as a deferred payment. The incubator provides its services and facilities with the understanding that it will receive cash when the company goes public or is acquired by a third party. This can take up to five years or longer.

Royalty agreements are a popular source of funds for US incubators. Royalty agreements provide earlier benefits than equity to the incubator. Instead of becoming a stockholder, the incubator takes a percentage of the company's sales.[32] This can create income for the incubator sooner as a company need not sell-out or float on the stock exchange in order to receive payback; it simply must generate gross sales.

For young companies, equity and royalty deals provide a way to conserve cash by trading future revenues or a percentage of sales for incubator services they need straight away. However, not all incubators take equity and royalties in companies. Many question that they will receive repayment at all. An incubator may have provided valuable services for an equity share and may receive nothing in return. However, some argue that the risks of equity and royalty arrangements can be lessened if the deals are structured properly.

Equity ownership by incubators has the potential to create conflicts of interest as equity holders are part owners of the company.[33] It can influence the advice offered if the incubator has a vested interest in the companies. Therefore equity policies should be developed to: (i) manage or eliminate actual or perceived institutional conflicts of interest; (ii) safeguard against stock price manipulation or speculation; (iii) and avoid any adverse effect on the reputation of the college, its faculty, staff, and students.[34]

In Ireland and across Europe there is much debate on the equity issue. Advocates highlight its importance for future income, payment for services and assistance with attracting sponsoring companies. Those questioning its true financial value question the long-term monetary gain. They also argue that taking an equity stake in companies can leave it difficult to attract companies to the incubator.

In Ireland a number of incubators take an equity stake in incubating companies. The stake can vary but the average is 15% for spin out companies and 5-6% for external companies. This equity stake is taken as payment for the assistance companies receive from the incubators in the commercialisation process, as well as the status of the university association.

Companies can buy out the incubator for a price based on an evaluation of the company. Incubators do not tend to include the dividends from equity shares in their revenue stream. Some incubators have found it difficult to persuade external companies as to the merits of taking equity in their company.

Other Irish incubators consider taking an equity stake in external companies to be contra-innovation. They feel that taking equity from companies could negatively impact subsequent valuations and a company's ability to raise finance. Most Irish Institute of Technology incubators do not take an equity share in incubating companies.

Some incubators are considering an Equity Share Option agreement, with the option for the company to buy back the shares in the future.

Irish Examples of Best Practice – Equity

ICELT at National College of Ireland has in place an equity share option agreement. This is a negotiable contract between incubatees and ICELT. It may involve an equity stake in the company of up to 5%. Companies may buy back their option within an agreed timeframe.

Legal Structure

There is much debate surrounding the choice of legal structure for campus based business incubation centres. There are two main types of legal structure that are adopted by Irish incubators. In the first case the incubator is operated as another department of the college. In the second case the incubator is set up as a separate company, yet still wholly owned by the college.

There are both advantages and disadvantages associated with each approach. Table 2 highlights the main characteristics of both approaches as identified by incubator managers.

Table 2. Legal Structures

Separate legal company

- Operates as a separate commercial entity
- Greater autonomy to the incubator in terms of purchasing power and decision-making.
- Commercial body dealing with tenants (Companies may not seek same latitude with limited company as they might with a public entity)
- Can register for VAT (of most benefit with capital expenditure)
- Can subcontract services such as IT, services, facilities

As part of the college

- Operates as another department of the college
- Demonstrates unity between the incubator and the college
- Eliminates risk of a them-and-us attitude throughout the campus
- Relies more on institution departments such as facilities, estates and IT for the operation of the incubator
- Has ability to leverage costs by using resources and facilities of college
- Purchase order numbers are raised through the college finance department

Road Map of Incubation Practices

Business incubation centres must establish operational policies to guide the day-to-day running of the centre. Operational policies ensure the incubator delivers a quality service to incubating clients.

This section deals with the operational issues of running and managing a centre. It introduces the procedures that business incubators must have in place to deliver the policies and strategies addressed in the previous section. It provides information on issues identified by managers critical to the successful management of business incubators. Topics addressed in this section are below.

- Relationship with host institute
- Role of manager
- Operations Policy Document
- Viability/resources
- Marketing
- Selection process
- Exit strategy
- Company supports
- Networking
- Company reviews
- Virtual incubation
- Incubator evaluations
- Gender equality
- Health and safety

Relationship with Host Institution

A US national benchmarking study found that incubators providing access to research institution expertise and facilities are among the top-performing incubators in the country. This success is based on the enhanced credibility and reputation that the affiliation with a research institution brings to the programme.[35]

Location within the campus helps the best-in-class programmes provide clients with networks of specialised technical assistance providers, qualified workforces, specialised laboratories, and equipment. As a result, firms can attract highly qualified employees, gain credibility with suppliers and customers, and access private venture angel financing.[36]

A good working relationship with the host institution is critical to the success of the campus incubator. Different extremes exist as to how this relationship is, should and can be executed. At one end the incubator is part of the commercialisation strategy for the university's technology portfolio (usually with the same person responsible for the intellectual property function of the university and the incubator). At the other end there are incubators that want little to do with technology managers in universities. However, experts[37] agree that the most successful relationships are those where both the incubator and university are *in bed* with each other.

A number of issues surround the relationship between incubator and institute that can make such a unity a difficult process.[38] It is felt that a university who sponsors a business incubator should and would make the success of the incubator part of its mission. This is not always the case and conflict can arise when adding entrepreneurship to the educational role of the institute, especially when entrepreneurship is not the institute's initial purpose.

Studies of international campus-based incubators have shown that specific difficulties arise for this type of incubation because:[39]

- Clashes exist between two cultures, the academic and corporate worlds. These cultures are very different and are difficult to integrate.
- Difficulties exist because of the valuation and ownership of intellectual property, dividing the equity stakes among researchers, institutions, entrepreneurs, investors and sponsors.

- There is pressure on professors to publish, which can affect IP protection.
- There are conflicts of interest between the participating parties.
- Conflict of interest can also occur when a faculty member decides to start a campus company, especially if they do not give up their faculty position.
- There are disparate legal, organisational, financial and governing structures within the institution and the incubator.

Other difficulties arise if the free exchange of ideas type of environment, which is prevalent at intuitions of higher learning, does not mix well with what is appropriate for fast-growing companies. Also, if professors regard a venture as a hobby it can be difficult to convince them of how best take the business forward. However, a process to avoid these conflicts of interest would result in increasing the potential for success and benefit.

Literature suggests it is the incubator manager who should initiate and drive interaction with the host institution. The manager should take the first steps in forging strong ties. Care should be taken in initiating these ties as the success of the incubator/host relationship can be influenced by the way in which the incubator operator presents the potential of the relationship to the institution staff.

The relationship is delicate and requires time to nurture. Incubator staff must present the benefits of collaboration in a positive, beneficial way to the institution staff. As one expert put it, an incubator cannot expect the host institution to offer its resources without seeking something in return.[40]

The associated institution is unlikely to offer resources unless the administration is convinced that they will derive significant benefit from the relationship with the incubator and its clients. Therefore, establishing relationships with host institutions requires making sure both sides can benefit from the partnership.

Firstly, the incubator manager should establish links with the Heads of School. If they support the incubator, they can encourage staff and students to become involved too. Problems invariably arise in establishing relationships, but are easier to resolve if everyone, especially the top university administration, is on-board.

One way of considering the situation is: "*The university is an organisation, and organisations do not do things. People do things – once you locate that person who can help you – then it's all one-on-one from there.*"[41]

In order for the relationship to be successful there is a need for the host institution to become more enterprising. However, it takes time to achieve academic buy-in. The incubator must be realistic about the task ahead. It will not be able to work with all academic staff. Instead it should identify a small number of *shining lights* within the institution and work with them. The 80/20 rule[42] can be applied to academic staff able to work with the incubator. The manager should work primarily with these.

Research shows that firms availing of university resources have productivity rates 59% higher than peers without such relationships. [43] However, the same study showed that only four out of 10 companies involved in the study engaged these resources. This implies that while these resources are useful, there is potential for further engagement and companies need greater encouragement to participate.[44]

Best practice also suggests numerous initiatives in which the incubator and institution can work together for the benefit of incubating companies. The following is a list of strategies that can be implemented to improve incubator/institution relations.[45] In Ireland many of these are already carried out by the Development Office or Research Office.

- Technology transfer

  This involves locating client firms among university researchers and commercialising technology hatched through the host institution.

- Student interns

  Students can help fledgling clients to conduct marketing studies, develop accounting systems and complete business plans. Technology departments can provide interns with specialist skills.

- A skilled talent pool and free recruiting service

  Internships can be one way for companies to pre-screen prospective employees without commitment.

- Physical resources of the institution

  Incubators could negotiate access to computer and science laboratories, meeting facilities, library, and athletic facilities.

- Faculty expertise

  Many faculty members may be willing to act as advisers and board members to the incubator and its client firms.

- Alumni networks

Potential for relationships as the incubator manager can help connect client companies to successful alumni who represent a source of potential customers, investors, advisers, and joint venture partners. The most financially successful alumni are usually entrepreneurs. Therefore, drawing back these alumni is attractive for the incubator and university as they can provide investment opportunities, acquisition candidates or joint venture partners.

- Role of educational institutions in economy

Educational institutions are expected to contribute to their communities in some measurable form. Supporting an incubator – and in turn, helping to create a strong local economy and employment opportunities – can be an effective *good neighbour* policy for the college.

- Access to the college placement services

A company can easily locate administrative, public relations, and marketing staff by calling the college placement services.[46]

The number of spin-off companies from academic institutions is slowly increasing on an international basis. But there are a number of factors that prevent further involvement of staff in enterprise initiatives. The most important include:

- Concern that faculty is not committed to business collaboration;
- Lack of active administrative support in coordinating programmes and resources for business;
- Lack of expertise in working with growing companies.

Irish incubator managers identify and appreciate the same benefits of the association with the host institution as cited in the literature. They have also experienced some of the issues in developing mutually beneficial working relationships. Achieving synergy with the institutions is a top priority for incubator managers.

Irish incubators have established that there are different levels in which the incubator can work collaboratively with their host institutions. The incubator can benefit from using institution facilities and resources to fill gaps in their own resource base. This is particularly true for incubators operating as part of the host institution. The most commonly used institution resources are the IT department, Press/Communications Office, Finance Department, Estates Office, Research Office and Development Office (where the incubator is not part of the last two).

The incubator also plays a role in creating an entrepreneurial culture within the college. This is commonly achieved by the incubator manager: organising student placement schemes with the college; organising enterprise seminars and clinics for under-graduates, post-graduates and staff; and identifying and locating staff to work with the companies. While this develops the enterprise agenda it is also an opportunity to raise the profile of incubation across the campus to a wide variety of potential clients.

In order to raise the incubator profile and to create an entrepreneurial culture on campus it is necessary to establish successful working relationships throughout the campus. As with the international examples, Irish incubator operators develop these ties by firstly identifying the most enthusiastic staff and by secondly promoting to them the benefits of incubation. Below is a selection of ways in which Irish incubators achieve synergy with host institutions.

Irish Examples of Best Practice - Relationship with host institute

Staff involvement

The TCD Enterprise Centre has been involved in the promotion of enterprise development for the entire university community. The centre contacted all staff, encouraging people with business ideas to contact them. Feedback was positive and there were many queries. The nature of replies was mixed, with interest coming from (amongst others) mechanical engineers, sociologists, and scientists. The aim of the exercise was not necessarily to focus on people who wanted to set up companies, but to identify good innovative ideas. The exercise presented the enterprise team with a number of non-profit making initiatives as potential company start-ups.

In the Midlands Innovation and Research Centre at Athlone IT the success of one spin-out company from the Engineering Department has created great interest in the incubator and enthused institute staff. Interest has continued to grow with the organisation of a graduation ceremony for participants of the enterprise training programme, to which everyone was invited and which was very well attended.

Establishing relationships with departments

The Midlands Innovation and Research Centre has achieved support from Athlone IT staff through frequent contact and through identifying activities and core competencies within the departments. The incubator plans how these activities can be utilised on a collaborative level. The incubator establishes relations with the student population through hosting seminar series and enterprise courses relevant to students.

The activity of ICELT in the National College of Ireland is recognised as strategically important to the college. As a result of this, relationships between the college and its various departments and ICELT are very strong. This relationship manifests itself in a seamless provision of services and access to facilities.

Shared resources

Information Technology

Invent is negotiating website development with a technician from the DCU IT department who has been appointed to deal with Invent queries.

A service agreement exists between Nova and UCD whereby the incubator is granted priority status by the IT department should difficulties arise with the service.

Services

Companies located at ICELT and Invent are charged a service fee towards the provision of items such as: heating, lighting, cleaning, reception, etc.

Research office

Invent at DCU is closely associated with the university Vice-President of Research Office. Its aim is to help academics prepare proposals for commercialisation of research. This office also collaborates with Invent in establishing patents, licensing technology and developing campus companies.

Finance department

Invent has found it beneficial to separate the rent collecting and business advisory roles of the incubator manager. The DCU finance department collects rent for Invent and bills the companies each month. If a company fails to pay the rent over a period of time the finance department contacts the Invent manager who meets the company to identify the source of difficulty.

Student placement

The TCD Enterprise Centre identifies start-up projects with which the MBA students can become involved. The companies present before the students and students are then invited to bid to work with them, for a specific period of time. Approximately 30 MBA students can apply to participate in the programme called Workout.

Successful MBA students work in teams with the promoters of new campus businesses to help them clarify their business opportunity, define their business model and identify their market. The MBA students' work is accredited and used for their final marks. This makes the placement more attractive for students. Results have been very high for participants which has helped market the programme amongst the incoming students.

Postgraduate involvement

The TCD Enterprise Centre is involved in entrepreneurship training throughout the campus. This training is aimed at all TCD post-graduate students. The aim of the programme is to increase the level of entrepreneurship awareness within the college and to identify projects with commercial potential.

The programme was designed in recognition of the fact that academics may wish to remain in their academic posts and to promote their postgraduates to exploit the opportunities arising from their research groups. The course is based on a number of enterprise modules and new idea generation workshops facilitated by TCD Research and Innovation Services staff. The programme is delivered through afternoon sessions every two weeks.

The Midlands Innovation and Research Centre at Athlone IT has established contact with the Head of the Careers Office to maintain a relationship with AIT alumni.

Overcoming difficulties

Invent works with the DCU Cross-University Business and Innovation Theme Leader. This person is a change agent responsible for cross-communication within the university, for increasing enterprise awareness and for creating a more entrepreneurial and innovative culture within the university. This person shares the work associated with new projects and also further markets the services and facilities of Invent amongst university staff.

Role of Incubator Staff

Incubator experts agree that the success of an incubator is heavily dependent on the person appointed as incubator manager. The duties of the incubator manager are wide and varying. The manager provides counselling for companies; prepares entrepreneurs to take advantage of external resources; links companies to external resources; and encourages companies to make the best use of incubator resources.

To achieve this, the incubator manager must anticipate and assess client company needs. The manager is expected to offer help before it is needed and to identify and remove burdens for incubatees. As one incubator manager in the literature described it, their role is “not to be walked on, but truly to go out of our way to serve (our clients).”[47]

However, there is a risk when incubator managers are expected to deliver such a wide variety of tasks. They can try being all things to all people and end up with services that are too abstract, undefined, and never-ending.[48] To avoid this, best practice suggests the manager should focus on coordinating the delivery of good services and should work with other agencies that can provide complementary and additional services to incubatees.[49]

Incubator managers should provide companies with general information, but should rely on their boards and networks to provide assistance when companies require specific contacts and information. This implies the role of incubator staff is to alert companies to these resources. The success of incubation is very reliant on the wider incubator team and the incubator’s network of support.

The tasks of operating an incubator fall into two basic categories: (i) activities related to running the incubator like a business; (ii) activities focused on helping incubator companies grow. To capture best practice, the incubator manager should prioritise category (ii). In the US, activities related to running the incubator like a business are the responsibility of other incubator staff, or by volunteers such as board members, stakeholders and interns.

The average number of incubator staff in the US is 2.8, and the median number of incubator staff is just 2.[50] Best practice suggests that any incubator with two staff will find it difficult to accomplish and achieve the expected targets of the incubator. The literature highlights that although the majority of incubators have only two staff, those with extra assistance free up the incubator manager's time to focus on working more with tenants. A larger incubator team would also allow changes to be implemented as quickly as they should.

Due to the shortage of resources, incubator managers should establish the list of tasks that must be carried out in the incubator on a regular/daily basis before employing staff. They should then establish the number of staff to whom the tasks could be assigned.[51] Lastly they should identify where there is a lack of personnel.

There are certain difficulties associated with employing the first staff member. Ideally this first additional staff member will carry out a range of broad and varied tasks. An incubator may need someone with technical and clerical ability, with knowledge of bookkeeping and with secretarial skills. However finding staff equally able in all disciplines is difficult and the manager must then prioritise the key areas needing assistance.

Research from the National Business Incubation Association (NBIA) in the US has found that recruiting and employing additional staff is easier. Their job descriptions tends to be narrower and there tends to be less need for them to multi-task. Therefore staff should be employed on a needs-be basis in order to fully identify the role of the position first.[52]

Below are examples from the literature as to how incubators are staffed and resourced internationally. US incubators tend to have three key incubation staff - the secretary/ receptionist, an operations/business manager, and an incubator president. The text below outlines how the traditional role of incubator manager is split between an operations manager and an incubator president. The table outlines further the roles of these staff.

International Example of Best Practice - Incubator management

The incubator president and operations manager[53]

In the US the role of incubator manager should be split into an incubator president and an operations manager. The incubator president/manager focuses their time on working with client companies. The incubator president is responsible for the selection of a facility, hiring of additional incubator staff, structuring governance procedures, and for developing early stage marketing of the incubator to the entrepreneurial community.

There should therefore be other incubator staff to manage the business functions of the incubator. This is the role of the operations manager. The operations manager carries out day-to-day contact with the incubator company employees. In the US the operations manager is typically a loaned executive, a competent volunteer working on a *pro bono* basis, or a paid member of staff, depending on the incubator's budget. This post need not be full time from when the incubator opens. Literature suggests board members and other community stakeholders can assist with these tasks at the start.

The operations manager should require minimal oversight by the incubator president. Poor performance by the operations manager will cause the incubator president to reduce the time s/he spends with the client companies.

Allocation of incubator staff workload[54]

Secretary/ Receptionist	Operations/Business Manager	President
Clerical functions Telephone answering Receptionist duties	Facilities management Leasing Maintaining shared services/facilities Managing student interns Marketing to prospective tenants Accounting and finance Purchasing	Key relations management Board/sponsors Know-how network Assisting incubator companies Counselling/mentoring Networking to external resources Creating the environment for entrepreneurial success

A lack of resources undermines the incubator manager's facility to employ staff and to delegate tasks. Time management is one of the biggest difficulties facing incubator managers. Consequently they are increasingly constrained in exercising company support duties, in order to attend a myriad of other tasks. Because of this it is suggested that an incubator manager can only work intensively with six clients at any one time.[55]

Incubator managers must carefully organise their time and resources. The incubator manager should identify what form of intervention is most appropriate for each client. Some US experts advise managers to choose which clients are likely to generate the best outcomes from the investment of their time. Clients should then be ranked in terms of their likely response to intervention and the manager's ability to deliver the required assistance.[56]

The impact of what an incubator manager can and is expected to achieve can be undermined if the manager fails to establish a rapport and trust with incubatees. Two incubation veterans highlight the importance of this relationship. They recommend that an incubator manager pursue some of the following activities in order to strengthen the relationship.[57]

- Take tenants off-site in a social atmosphere
- Encourage policy that helps support all tenants while they are in the centre, instead of creating a tiered class within the centre
- Do not exercise any liberties that incubatees do not receive such as reserved parking
- Keep some unusual hours to show camaraderie
- Work with the board to be flexible with early tenant applications and selections
- Pay attention to client-community relations.

Incubation expert, Mark Rice (1995)[58] identifies three levels of intervention that can exist in incubation centres. These levels are:

Level 1: Passive environmental intervention
Level 2: Reactive direct intervention
Level 3: Proactive direct intervention.

These levels of interaction characterise the different relationships that develop between incubator managers and incubatees. Level 1 is created when there is no direct contact between incubator manager and client company, the manager simply supplies the environment and the entrepreneur chooses how to use it to suit their needs. This level of intervention can include facilities, shared services and peer networking among tenant companies.

Level 2, reactive direct intervention, involves a direct involvement between the entrepreneur and the incubator manager when the entrepreneur approaches the manager for help. It is tailor made to the needs of companies. The manager provides assistance through counselling and through using external networks of expertise. Because this approach is centred on addressing a specific problem, the outcome can have short-term results. It does not support the manager/company relationship in the long term, as interaction between the two can reduce once the particular problem is solved.

Level 3, proactive intervention requires the manager to measure and to regularly assess the progress of the company. While this level of interaction is more time demanding on the manager, it helps the manager establish a rapport with the company and remain up-to-date with company progress. It gives the opportunity for both the incubator manager and company to predict difficulties in time, rather than addressing them when they become problems. It is therefore better for creating long term planning and success as the manager encourages the companies to think beyond their current circumstances.

Irish incubator managers attach great importance to their role and duties. They are united in their drive to assist start-up companies, but are concerned that resource constraints can have implications on the level of support they can offer companies.

They are working collaboratively with technology transfer offices, IP and equity specialists; facilities management; and administration and secretarial services. Below are some examples from Irish incubators on the incubation centre manager’s role and the range of staff employed in the centres.

Irish Examples of Best Practice – Role of the manager

The manager at Invent (DCU) sees his role as an operations manager, a business developer, and the principle marketer of the incubator, and would divide his time 40%-30%-30% accordingly. Therefore, he is forced to be selective in what practices he can implement. By working closely with other DCU staff the manager can share tasks such as marketing, IT, technology transfer and rental collection.

Incubation activity at TCD is part of the TCD Research and Innovation Services Office. The Office currently employs 8.5 staff. Additionally they have support from Enterprise Ireland commercialisation specialists who are based on the campus in the area of Biotechnology, Materials Technologies and Materials Processing Technologies and Optronics. Extra staff are being recruited, funded by Science Foundation Ireland (SFI) to work in the area of Research and Technology Transfer.

There are two full time people employed in the TCD Enterprise Centre. One person is responsible for property management including negotiating rent and service charges, leasehold matters, dealing with rent, carrying out rent reviews, upgrading and refurbishing units. The second person focuses solely on enterprise development and entrepreneurship throughout the campus.

NovaUCD has a team of professionals supporting technology transfer, incubation and enterprise development. These include the director, an operations manager, a facilities manager, research commercialisation specialists and project managers.

Operations Policy Documents

An operations policy document is any document that articulates the systems and practices of incubation to incubating companies. Operations documents provide an overview of business incubation and outline the value added services of the incubation programme. Most importantly they inform clients of the incubator's mission and the support services provided, as well as the practical side of residing in an incubator. Incubators in the US often develop operations policy documents instead of service agreements (see page 11).

Operations documents can take the form of an incubator handbook or manual and can be used as policies and procedures manuals. They can be formal documents connected to the license or lease agreement; they can be informal checklists that managers discuss with clients; or, they can take the form of additional information that is available on an incubator intranet. Operations documents address a number of topics including:[59]

- Availability of professional services, events and programmes
- Prices of business assistance services
- Availability of support services, reception, office equipment, books and other resources
- Billing procedures
- Operation of office equipment
- Mail and parcel services
- Telephone installation and usage
- Building security procedures
- Building maintenance and safety
- Parking availability and procedures
- Procedures for using shared spaces such as conference rooms and kitchens
- Furniture and equipment rental
- Incubator mission
- Entry and exit policies
- Parking and smoking policies
- Who is responsible for cleaning what

Best Practice readings argue both for and against the development of operations documents such as incubator handbooks and service agreements. Those in favour of their preparation suggest that they can be disseminated to the public in promotion of the incubator and in reply to queries about the incubator. They can also be given to prospective tenants when discussing lease or license agreements. The operations document can then act as a written record of service offerings. This can help in managing expectations of clients – by clearly stating what the incubator proposes to provide for clients and reducing the risk of future disagreements or disappointment with the services provided.

Operations policy documents also focus client attention on the added value of incubation, beyond the provision of rental space. When clients sign the lease they are accepting responsibility to honour their agreement and to commit to and partake in the services. This can clarify the obligations of both the client and incubator. It is possible to refer formally to the handbook in the lease.

There are a number of difficulties with preparing handbooks. The operations policy can become a maintenance problem for incubator managers - as information on services, facilities and supports change so too must the operations policy documents. With regard to handbooks, managers in the literature felt that if clients have a problem or a question, they are more likely to approach incubation staff rather than referring to a handbook.

Despite these it can be argued that handbooks fill a need for providing information to clients, for setting rules and procedures standards, and for creating a general awareness of what to expect for the duration of their tenancy. [60] The following are examples of operations policy documents in use in the US and in Ireland.

The US example shows how one centre in Pittsburgh presents tenant firms with a Passport Booklet. The Passport booklet is a guide that explains operations within the incubator and the desired outcomes of the incubator.

The Irish example shows how one centre manager developed a similar document that is presented to incoming companies as an outline of the services and facilities provided. However, handbooks need not be designed as formal publications, but can instead be included as an information link on the incubator website. The information is then readily available for reference and can be easily changed and adapted.

International Example of Best Practice – Operations policies

Dr. Robert Meeder SPEDD Incubator Network[61]

This incubator manager has developed a Passport Booklet, which contains valuable information for both incubating and non-incubating companies. Robert Meeder uses the Passport to divert focus from incubation buildings and space to the delivery of service. He recommends other incubator operators should do the same when preparing a promotional brochure or booklet and should focus on selling a set of services as opposed to promoting office space.

The booklet was designed on the basis that most entrepreneurs suffer from degrees of stress and loneliness. The information addresses where the entrepreneur's weaknesses lie and how the incubator services can assist with these. For that reason Meeder suggests that when preparing a booklet the incubator manager should define what the services being offered are and how they can impact on entrepreneurs.

Meeder also suggests that the language must be enticing for any booklet or brochure to be successful. This can be achieved by stating terms as opposed to giving a full description. Meeder uses novelty references such as the Seven Guerilla Marketing Tactics in the Passport. The Passport does not fully explain each of the seven tactics but gives a brief description. This then attracts interest and queries.

Irish Example of Best Practice - Operations Policy Document

The Midlands Innovation and Research Centre at Athlone IT has established an Operations Policy Document that outlines (a) incubator objectives, and (b) the requirements for companies taking space in the incubator. The document was developed by researching and adapting operations documents from local Community Enterprise Centres to the objectives and aims of the Business Innovation and Research Centre. Both incoming companies and the incubator manager sign the Operations Policy Document as a guarantee of expectations for their time in the incubator.

Viability/Resources

This is a crucial issue for centres across the world. In order for any incubator to have proper impact, it must be self-sustainable.

Common costs of incubation operation include:[62]

- Real estate related costs, which may take the form of rent paid to a landlord, or, if the facility is owned by the incubator, costs associated with amortisation of debt incurred for acquisition and renovation.
- Costs related to providing shared services.
- Staff salaries, typically the largest operational costs incubation centres must incur
- Capital expenditures.
- General and administrative costs such as office supplies, marketing materials and professional fees such as legal and accounting services.

A lack of resources limits the hiring ability of the incubator. A lack of staff is a huge resource issue for incubation centres. Even best practice incubators do not expand beyond the core staff of three unless they receive funds from sponsors, or in the US, are provided with executives on loan.

As incubators are limited in the number of staff they can hire to provide direct assistance to companies, there is considerable motivation to reach out to external sources of business assistance and finance.[63] When a sponsoring company underwrites some of the costs, less of the total revenue needs to be derived from rental income.

US incubators typically receive sponsorship from external companies to cover capital costs. Sponsors are also valuable to the incubator for providing access to people, equipment and services at reduced rates. By supporting business incubators, external sponsors can benefit through:

- Goodwill generated by their donation
- The creation of a channel for technology transfer
- A living laboratory for the study of entrepreneurship
- A tax advantage related to the donation
- The creation of a market for their own services or products

The external sponsoring company can write off the management assistance they provide against their economic development budget. Attracting long-stay sponsors is a difficult process and incubator operators are not encouraged to depend upon it as there is no long-term guarantee of the sponsor's commitment. The incubator should instead aim to achieve self sustainability.

Most incubators rely primarily on cash flow from their own operations for survival[64]. This implies that despite the value-add of incubation in terms of business assistance services, networking and other programmes, the real estate portion of the relationship is still the most important in terms of revenue for US incubators.[65] Incubators solely relying on rental income to cover expenses should expect difficulties due to the nature of start-up companies who carry a high degree of risk. As a consequence incubator operators should be prepared for less than 100% rent collection. Instead 90-95% of receivables is considered a reasonable collection rate.[66]

Incubators can also charge for business services and shared office services such as the use of communications, computing and copying equipment. However, collecting accounts receivable related to shared services can be difficult. Incubators also charge for business management assistance and receive either cash or royalties and equities for assistance provided.[67]

Taking equity in companies is a form of deferred revenue for incubation centres. However, the probability of return is usually low, and the time to harvest is typically long. Therefore, it is advised that the incubator business plan should factor in equity income over the long term. This is to permit programme continuity until the winners emerge and royalties or equity can be converted in to cash.

Some US incubator operators do not include revenue from royalty and equity agreements in their plans to achieve financial sustainability. They feel there is no guarantee they will be delivered.[68] They also feel revenue from royalty and equity agreements should be treated as a windfalls – if and when they do happen.

Incubators embedded in sponsoring educational institutions can have costs such as accounting, annual audits, legal fees, IT, marketing, and facilities management absorbed by the host institution.

It is commonly understood that once the incubator is built, the incubator manager faces a difficult task in filling the space. The majority of European incubators have occupancy rates of 85%[69] with US incubators typically reaching 75% to 90% occupancy rates within the first three years.[70] However, the manager is expected to reach high occupancy levels by charging competitive rental rates. The manager may be tempted to recruit as many companies as possible that may not necessarily fit the selection criteria. This would achieve a higher rental income and achieve break-even point sooner. The high rental income would also provide cash flow for the incubator manager in implementing a wide selection of services and supports.

However, the EU Benchmarking Review advised against the practice of accepting companies not entirely fitting the entrance criteria in favour of generating revenue. The Benchmarking Review advised incubator managers that when trying to achieve high occupancy rates they should continue to implement selective admission criteria.

Reaching break even point and achieving sustainability is a challenge for Irish incubators. The average size of Irish incubators is 1,000 square metres as opposed to 2,500 – 3,000 square metres recommended by the NBIA as an efficient model to achieve self-sufficiency. Rental rates are charged in alignment with local commercial rates leaving it difficult for some mangers to fill units. Irish incubators also typically charge just one fee for incubation space and services, while US incubators tend to charge separately for rent and for business services and can earn greater income.

Irish Examples of Best Practice – Fund raising

The funding of ICELT in the National College of Ireland was provided through an innovative combination of public, private and internal fundraising driven mainly by the College President.

Invent at DCU has been funded by Enterprise Ireland, AIB and DCU. The university's Educational Trust, responsible for fund raising for the university, has agreed to include Invent in their future fundraising appeal. The Invent facilities, especially the seminar room, are available for use by external companies on the condition that Invent/DCU companies can attend.

Cash Flow

According to one US incubator manager, cash flow analysis is the most important tool available to incubator managers and incubator clients. He suggests that cash flow analyses and subsequent cash flow projections are the only way to manage cash flow and avoid cash crunches. Incubator managers who experience cash ‘crunches’ should ask four basic questions in order to correctly manage the situation and set procedures in place to avoid a repeat predicament:[71]

- (i) They should assess how they arrived in this situation.

With accurate cash flow analysis this could have been identified sooner. Cash flow projections should extend at least twelve months into the future, in fortnightly increments to identify when this can arise.

- (ii) The manager should assess how bad it is going to get.

This can only be assessed by projecting future cash flow. Projections should identify if it is a temporary cash problem or a sharper slide in cash flow.

- (iii) How will the incubator get through it?

The incubator should try increasing cash flow by raising rents, generating additional revenue sources, renting vacant space at reduced rates, convincing graduating clients to remain a couple of months, seeking faster payment, seeking partial payment from a late-paying client, arranging a deal with late-paying clients, threatening clients with small claims court for prolonged late payments, or seeking an operational subsidy. Alternatively they could decrease cash outflow by either paying out less or paying out slower. Borrowing money to cover remaining shortages with a regular loan or a line of credit should be a last resort.

Incubators should not become financially dependent on any single client – they should try to cover costs from anchor tenants or secure clients who pay regularly. The incubator manager should also ensure incubating clients are themselves using cash flow analysis[72] and can meet payments – no client should threaten the financial survival of the incubator. Fixed exit dates are dangerous for cash flow in that they can add to the difficulties of a cash flow crunch if the manager finds it difficult to re-lease the space.

- (iv) The incubator manager should consider how he or she will do things differently in future

The incubator should try to create a cash reserve. It should have a line of credit negotiated and secured at all times. It should bill clients regularly and expect prompt payments, avoid discounts as a means of encouraging prompt payments, and not ignore non-payments. If companies fail to pay, the manager should identify the source of the problems and how they can help. Incubator managers should not give clients something for nothing and should make the incubator services readily available to paying non-incubating companies.[73]

Incubator sponsors can often get the numbers wrong. Unfortunately when sponsors, stakeholders and staff have to focus month after month and year after year on the financial survival of the incubator,[74] the energy and enthusiasm of the project can be quickly diminished. Therefore great attention should be paid to the incubator feasibility study. If the feasibility study is carried out correctly, cash flow difficulties will be anticipated and the incubator team will be adequately prepared. The feasibility study should also indicate how long it will take to find companies to take space and address how the incubator may have to establish a track record before it can attract the exact type of client it is targeting such as those with high growth potential. Collectively this will assist in avoiding cash crunch situations.

Marketing

While campus incubators will ideally have a number of commercialised projects from within their associated host institution, demand within the college is not usually high enough to sustain the incubator. Therefore, the incubator must attract external companies to the incubation space. In order to do this successfully, the incubator manager must be active in promoting the centre and its services to attract and recruit companies.

Consequently marketing strategies play a major role in incubator activity and tenant recruitment.[75] When planned properly, they can greatly facilitate the letting of space. Once the incubator is launched, the incubator advisory board and/or the incubator manager should form a planned marketing strategy. Robert Hisrich, a US incubator veteran, suggests that marketing objectives should always be set by members within the organisation as opposed to an external marketing company. The role of the external marketing company should be more focused on executing a marketing strategy.

Although it is widely recognised that incubator budgets cannot afford extensive marketing and promotional campaigns, experts invite incubators to be creative and radical in their approach. They insist that for a campaign to be effective it need not exhaust resources. This section suggests a number of ideas for promoting the incubator and outlines the most common ways in which incubator tenants hear about the incubation facility.

The first suggestion is that the marketing process should begin prior to the incubator opening. Although the facility will not be fully pre-leased before opening, tenant targeting efforts can start after initial policies such as screening criteria are determined (refer to Selection Process page 58 for more). Early promotion should create anticipation and awareness before the centre opens.

Advance marketing can involve establishing a media presence through regular media alerts on building progress, a direct mail campaign to potential tenants, promoting the centre at seminars and events and developing a newsletter to distribute to future clients.

The following should also be considered when organising early stage marketing:[76]

- Define the incubator catchment area. Because most entrepreneurs like to work in an area close to their homes, and tend to use cars to travel to work, the natural catchment area for an incubator is a radius of 30-45 miles. Sometimes if public transport exists, this distance might be extended. Experience shows that the range can be short as 15 miles.
- Use market research to identify the type of tenant and company activities that are most likely to be in the catchment area.
- Define the type of tenant that the incubator wants and is able to support.
- Think carefully before restricting the incubator to a very narrow market sector (themed incubator).

Before developing a marketing strategy, incubators should first of all set the objectives of the plan. These are achieved by matching the objectives of the organisation with the needs of the target market. This identifies the benefits of incubation that will capture the attention of the target audience.

For example, a US incubator manager[77] encourages other incubator managers to identify where the entrepreneurs' weaknesses lie and to show how the incubator services can assist with them. In particular he suggests most entrepreneurs suffer from stress and loneliness. Therefore, marketing of incubators should highlight how incubation can remove some of these worries.

Other important objectives worth promoting are the promise of growing successful entrepreneurial companies, and the access to other programmes, resources and expertise. However, priority must be paid to creating an accurate marketing plan, which must not over sell the services of the incubator.

Once the objectives have been identified, the incubator manager must then identify what media should be used. To answer this, the manager must ask how the incubator can gain constant exposure. How can it satisfy target market needs? How can it compete with the competition? Marketing resources are always limited. This is a contradictory practice for incubators, who encourage their clients to invest in and develop marketing strategies.[78] Nevertheless, developing good marketing programmes need not be an expensive process. There are many marketing strategies that can be implemented at a low cost.[79]

There are a number of marketing tools which every incubator should use. They include: developing a network of local organisations to help make contact with prospective tenants;

using PR and articles in the local press to publicise activities at the incubator; and, encouraging local business organisations to use the incubator meeting rooms.[80] Word-of-mouth is crucial for the promotion of any incubator.

The incubator must have a strong media presence. This can eliminate some of the cost of advertising. TV and Radio are less popular forms of media in the US because they are too expensive and can be easily lost and not reach the target market. However, local radio in Ireland can be a very effective medium.

Publicity and public relations are two dimensions of promotional work that are carried out most frequently.[81] This is because they cost less money than other forms of media and because the medium suits the promotion of tenant companies. The manager should work on ensuring that companies receive press coverage. When writing press releases, incubator managers should write for the particular media so that the items are easy to publish. Some journalists want to write the articles themselves. Therefore, the manager should invite journalists to the centre to carry out interviews.

Incubator managers should promote the incubator as much as possible. They should contact a variety of organisations within the locality to which they could present. In Ireland this can include local Chambers of Commerce and County Enterprise Boards. Seminars and campus workshops are also good for publicity and good for building relations with the community. These can all lead to interested applicants. Hisrich[82] recommends that attendees be charged a nominal amount to attend events. This is based on the principle that people are sceptical about free events.

The publication of brochures is important for the promotion of any incubator. They should be distributed to accountancy offices, solicitors' offices, banks – anywhere else there is exposure.[83]

The brochure should tell the story of the incubator, but not overload on information. It should present bullets of information that are very enticing and encourage future queries. Therefore, when writing a brochure, it is important not to include all the information straight up. Hisrich also suggests that incubators can be promoted through some inexpensive items such as mugs, pens and desk accessories. These can be distributed throughout the wider campus, for example mousemats in the student library.

International Example of Best Practice – Promotional material

Dr. Robert Meeder SPEDD Incubator Network[84]

This incubator suggests distributing the operations manual to outside businesses as promotional material. This promotes the incubator to all companies and informs the public of what services are available within the incubator. This improves PR for the incubator and essentially increases income. The book can also be used as a platform to promote successful companies, highlighting their accomplishments and the role incubation played in assisting their development.

Research was carried out in the US in 1990 with both incubator managers and client companies. This research focused on how managers promote their incubators and how companies became aware of the centres. The results of the research are presented in Table 3 and Table 4 below.[85]

Table 3. How incubators are promoted

Recruitment method	Percent
Informal external network	90.8
Public speaking	87.5
Brochures/pamphlets	82.5
Tenant referral	80.0
Affiliated agency referral	79.2
Mass media exposure	66.7
Building signage	38.3
Newspaper classifieds	32.5
Public service advertising	19.2
Promotional videotape	15.8
Commercial leasing agency	14.2
TV/Radio advertising	6.7

Table 4. How tenants hear about incubation

Attendance	Percentage
Informal external network	42.0
Publicity in mass media	16.2
Affiliated agency referral	11.7
Tenant referral	11.1
Newspaper classified	4.6
Public speaking	2.2
Brochures/pamphlets	1.8
Other	10.4
Tenants (n=569)	

(*Source:* Business Incubator Marketing Strategies, NBIA, 1990: Introduction)

From these tables it is clear that informal external networks are an important source of publicity for the incubator and also an important strategy for recruiting companies. Mass media exposure is also significant. It would appear that while many managers promote the incubators through public speaking, it is one of the less likely ways in which tenants hear about the incubator. However, NBIA suggests that public speaking contributes to tenant recruitment indirectly through referrals and media exposure.

Branding

Branding and image always arise when discussing marketing. With incubation, branding is of great importance to some tenant companies who prefer not to call the incubator an incubator. They feel the term *incubator* has negative connotations with a struggling business. Also some companies can feel the term *campus company* or *campus incubation* can insinuate a commercialised project, led by a non-commercially driven researcher or academic. This is an issue for commercially active and highly competitive companies who feel the image of incubation can influence opinion of their company. Therefore, some US incubators prefer to use more positive terms such as Accelerator.

From research with a number of Irish campus incubators, it is clear that there are certain marketing practices in which most incubators partake. The more common practices include regular use of the press and media. This is popular primarily because it is free and has a wide reaching audience.

Media attention is usually achieved through the promotion of success stories from the incubators, as managers agree that the public are interested in reading success stories. Each incubator has or is in the process of developing their own brochures which will be distributed at various networking events. The incubators are actively involved in on-campus promotion through organising campus enterprise seminars and student placement schemes.

However, incubator managers have identified that resource constraints prevent them from pursuing further marketing activity. Enterprise Ireland is developing a national marketing strategy to raise awareness of incubation throughout the country and to highlight the location and benefits of each campus incubation facility. Below are examples of how Irish incubator managers are currently marketing their programmes.

Best Practice Example – Marketing

When launching its services, the BioIncubation Space at UCC contacted Irish VC companies and existing biotechnology networks at home and abroad, outlining the purpose and functions of the facility and encouraging them to convey the information to their clients.

NovaUCD has engaged a PR agent to publicise and promote NovaUCD related developments and the success stories of its client companies.

The M50 Enterprise Platform Programme, a year long enterprise training programme at IT Tallaght, advertises in a Sunday business paper during the Christmas to New Year period. The New Year is a good time to advertise as people may decide to start a company. The M50 advert may then catch their attention and be the encouragement they need to start a company. It can also attract the attention of emigrants returning for the festive period. Another advantage of advertising at this time is that advertising space is less expensive than at other times of the year.

Through close relations with the media, ICELT at the National College of Ireland promotes its services and facilities mainly through free press coverage, usually promoting successful client stories. ICELT's brochure and word-of-mouth coverage have also contributed to its success. Future marketing will include Q&A sessions with famous entrepreneurs organised for incubatees, NCI staff and students.

Invent is actively involved in the First Tuesday Club and it carries out much of its networking and marketing through this channel. Invent works closely with the DCU PR and marketing office for the marketing of the centre, in preparing press releases and media coverage. The incubator is also promoted through the Mallin Awards, a competition for graduates, undergraduates, staff and alumni of DCU that aims to increase the level and culture of enterprise on the DCU campus. It was established by a successful serial entrepreneur and graduate of DCU, Liavan Mallin. The competition winner receives a Cash prize of €10,000 and access to a range of business services.

When the Midlands Innovation and Research Centre at AIT organises events, invitations are sent to County Enterprise Board networks and to multinational companies located in the area, who are asked to forward the invitation to their own extended networks. This is useful in attracting a wider audience to their events. Activities within the centre are promoted through the press and local radio. The incubator also works in collaboration with the PR consultants assigned to AIT, who assist in promoting large events such as the launch of the incubator and the Enterprise Platform Programme graduation ceremony.

Word-of-mouth promotion and a close interaction with development agencies has been hugely important for the Business Development Centre at Letterkenny IT.

Selection Process

Most incubators face difficulties in reaching break-even points and in maximising rental revenue. This issue forces incubator managers to face a problematic trade-off. Should the incubator accept all applicant companies in order to create revenue streams, or should the incubator accept fewer companies, but focus on those who fulfil the objectives of the incubator?

This debate is widely mentioned in the literature. It is commonly stated that the selection of companies should be aligned with the purpose and objectives of the incubator.[86] Typically the purpose and objectives of the incubator are to assist the highest potential companies in achieving sustainability and growth.

Best practice advises that these objectives should dominate all incubator practices, especially the selection of incubating companies.[87] The following are a number of guidelines recommended by various experts to assist incubator managers in the selection process. Following these guidelines can help guarantee that the quality of incubating companies is maintained.

Incubators should have a formal application process in place. Many incubators require applicants to submit a formal business plan, while many more incubators use an application form. Formal application processes can act as an important source of market research as they show the types of companies that are aware of the incubation space. Formal processes are also useful to incubation staff to ensure efficiency and accuracy in gathering information on the applicants.

Because the applications require the same information from all companies it is easy to compare applicants. Application forms also ensure that all the required information is obtained from the start. As well as the establishment of incubator procedures, literature suggests managers must employ instinct when considering prospective clients. It also advises that despite the best agreements there is always the risk of taking in a troublemaker[88] company.

Application processes are usually backed up by at least one face-to-face interview. Examples from the literature show that while on paper some companies can look good, the interview process can reveal a more accurate view of the company. It is suggested[89] that during the interview, the incubator manager should look out for the level of personal interaction[90]. A lack of personal interaction can indicate that the entrepreneur cannot be coached. Even if the entrepreneur is talented and has a good idea, if they are not open to learning from the incubator manager, facilitators or fellow entrepreneurs, they will be unsuitable participants of the incubation programme.

The following is a summary of the recommended admission and selection process for business incubation.[91] Irish adaptations of this practice are referenced below.

- Conduct a brief initial interview with those enquiring about the incubator.
- Use a simple checklist during the initial review:
    - What is the technology underlying the proposed business?
    - Who owns the technology?
    - What potential hazards (if any) are associated with the technology?
    - Is there a business plan?
    - Is there a market?
    - What are the broad objectives of the proposed business?
    - How is the business to be funded?
    - Are the key people in the proposed business likely to have the appropriate knowledge and experience to operate the business successfully?
    - Are the key people likely to benefit from the incubator environment?
    - What support does the proposed business need from the incubator?
    - Can/will the incubator support these needs?
    - Is the proposed business in direct competition with an established tenant?
- Be sensitive in rejecting potential applicants at this stage.
- Invite those who pass this stage to attend a detailed meeting.

When selecting clients, the incubator should:

- Make a detailed examination of the business plan.
- Check the CV of the key people by taking up references.
- Decide whether the management team is big enough and sufficiently multi-skilled to manage the proposed business.
- Decide whether the key people in the business are well motivated.
- Check the validity of the technology behind the business plan.
- Check the financial standing of the key people and their financial backers.

Informing unsuccessful entrepreneurs as to why they were not accepted to the centre is another important part of the application process. One incubator manager suggests telling them face-to-face. While it may be difficult and time consuming, she feels it is owed out of courtesy to discuss with the company the reason why they are not selected. By doing this the manager also has the opportunity to counsel the company on what they should do from that point forward. If the incubator runs an enterprise training programme or provides hot-desk space, alternative arrangements may possibly be made.

Irish campus incubators generally seek to populate their centres with high knowledge based start-up companies arising from or associated with the Research and Development resources of the institution. In order to achieve this, Irish incubator managers already implement a number of the practices recommended in the literature. Below is a representative sample of the selection practices exercised in Irish incubators.

Irish Examples of Best Practice – Entrance criteria

The entrance process of the wet-lab space is closely related to the mission and objectives of the Bioinnovation Centre UCC. Tenants must fulfill basic criteria. They must require wet-lab space, possess strong IP, have good growth and commercial potential, have a business plan and a committed management team. These criteria must be conveyed through the completion of an Expression of Interest application form. This is evaluated by a sub-committee of the advisory board. Following this, companies must complete a full application form disclosing more detailed information. This is then reviewed by the sub-committee again, and a decision on whether or not the company will be granted space is made.

Applicants to Invent, DCU, must be knowledge based innovative companies. Their stage of development is less crucial as Invent will accept more established companies who wish to develop an R&D relationship with DCU. It also welcomes more mature companies who wish to locate their R&D unit in Invent. Applicant companies are assessed by the incubator manager and director who make an executive decision on whether or not they will grant space. The manager and director contact some board members if they are in any doubt. Making decisions at this level speeds up the application process. The board are updated of new clients during their bimonthly meetings.

ICELT at the National College of Ireland focuses exclusively on eLearning, eTraining and other related technology sectors.

Exit Strategy

Exit strategies are usually outlined in well-defined policies. These policies are developed by incubation centre managers and their committees to govern the duration of incubation tenancies. Exit policies ensure that the services and resources of business incubators remain focused on assisting start-up companies by encouraging companies to graduate once they reach a certain stage of development.

Incubators should have procedures in place to encourage clients to leave as soon as they are capable. Best practice in the US recommends that the incubator manager should discuss graduation with the client company from day one.[92] It is felt that by discussing graduation policies, clients are encouraged to engage in long-range thinking. This can help them consider longer-term goals and realise their potential to outgrow the incubation environment.

Graduation criteria can be highlighted on application forms, in client manuals, in stand-alone handouts, and in some cases even on signs in hallways. Exit policies can also be included in client lease and license agreements by simply stating: “Resident client is expected to graduate from the centre within x years of entry and is encouraged to relocate in the abc area.”[93] This can formalise the exit and graduation criteria, incorporating graduation day as part of a binding contract.

There are different strategies to nudge incubator clients from the incubation space. The most commonly used practices include: using time limitations, escalating rental rates and using graduation benchmarks.

With time limitations, a certain level of flexibility exists from incubator to incubator, in terms of the length of time companies remain in incubation space. The types of companies an incubator serves usually determine the duration of tenancy.[94] The average reported stay in mixed-use incubators across Europe is two to three years. Biotechnology incubators can incubate companies for longer periods of time, sometimes up to seven years.[95] This takes into consideration the lengthy R&D lead time required to see the commercialisation process through.

Anther popular exit strategy is to raise the rental rate on an annual basis. This usually works whereby in the first year the incubator charges a below market rent, the second year the incubator charges market rental rates, and in the following year the incubator charges an above market rental rate. Managers feel this approach allows the entrepreneurs make prudent business decisions as to whether they want to remain in the space or want to graduate. However, best practice also advises against charging below-market rental rates for incubation space.

Graduation Benchmarks or Goal-Exit Strategies are other forms of exit strategies. These policies are flexible and are based on the premise that companies develop at different rates. They suggest that upon achieving any one or more benchmarks or milestones, the tenant should graduate. These goals might be associated with finance, job creation, marketing, research and development, product development, management facilities, or equipment purchases. Incubators can require companies to achieve more than one of these stages of development prior to asking them to move out. Other popular benchmarks include:[96]

- The client reaching maximum allowable stay
- The client's space requirements exceeding available space in incubator
- The client exceeding a number of employees
- Client sales and profitability become sufficient for success outside the incubator
- The client no longer needing or using incubator business assistance services
- The client having acquired sufficient financing
- The client's acquisition or public stock offering
- The client's management team and board of directors set up
- The client selling revenue-producing products or services

There is no uniform approach to graduation policies that will suit each and every incubator. It is instead something that must be created by reflecting the incubator mission statement, its environment and its objectives. Care must also be taken to avoid damaging the company in implementing exit policies.

For this reason, some incubators claim that the most successful policies are flexible policies.[97] Flexible exit policies are valuable when they are exercised with the good of the company in mind. This happens when a manager feels the company will suffer should they graduate after the agreed length of time. However, a flexible policy makes it more difficult for the manager to manage and plan spatial strategy for the centre. It can also place an extra burden on the manager to manage expectations and to make judgements on when a company is ready to leave.[98]

To guide the graduation process, managers should always ask two important questions:

- Does the company still benefit from a presence in the incubator?
- Does the incubator benefit from the firm being a client?

The manager should also look at the reasons why companies do not move out. They should identify where the company needs greater assistance and how best that assistance should be delivered, be it through the incubation service or through relocation.

While companies should be informed of the graduation policy from the beginning of their tenancy, they should also be informed as to the role the incubator will play in the graduation and relocation process. Often companies may like to move out of the space, but are unsure of the difficulties and consequences associated with moving. Also, lack of suitable office space in the community can cause companies to prolong their stay in incubation space.

There is a role for incubator staff to establish a plan that will make moving from the incubator a smooth transition for the company. This implies that one of the most important stages of the graduation process is the assistance incubation centres provide to companies in relocating and in graduating from the centre.

However incubation centre managers also face the related difficulty of achieving and managing sustainability within the centres. This requires managers to maintain high occupancy rates that will ensure regular rental income. Having a tight exit policy directly impacts the population of the incubator and has consequences for the sustainability of the centre. The issue of incubation branding may also encourage companies to leave. Clients may wish to leave the incubation space to establish a separate identity. This can happen if a company feels they have outgrown the status of an incubator-assisted company.

Irish incubators recognise a need for exit policies, but also recognise a need for clients to remain in the space in order to provide revenue for the incubator. However, despite suggestions that a milestone graduation policy might reconcile this difficulty, most still implement a time-based exit strategy. The average length of stay in Irish incubators is two years nine months. One difficulty for incubator managers arises when their role is confused. This can happen when managers are firstly encouraging companies to develop, but must then ask companies to leave.

Company Support

Incubators play a major role in the development of start-up companies. The scope of business support provided at incubators can range from pre-incubation services to providing support in raising finance.[99] Within this spectrum, there are four generic areas of support that most incubators provide. These are:[100]

- Professional services
- Management and professional development
- Marketing support
- Funding assistance

All forms of business assistance provided by an incubator present start-up companies with credibility and an increased opportunity for raising finance and creating stronger management teams.[101] In her Menu of Services, Nanette Kalis suggests a number of specific services that incubators provide:[102]

- Core business basics
- Professional services
- Networking among tenants
- Shared administrative services
- Micro-loan and financing programmes
- Application assistance
- Resource library/computer labs
- Technology commercialisation
- Internet training and access
- Assistance with capitalisation and venture partners
- Mentoring
- Intellectual property management
- Phone systems
- Security
- Space/building services
- Marketing/promoting clients
- University linkages
- Innovation assessment

Incubator resources are limited to providing only some of these in-house. The rest of these services are therefore typically contracted to external companies. Table 4 analyses the types of business support services that were provided by European incubators in 2002. This table identifies the support European incubator staff could provide and the services they accessed externally.

Table 4: Incubator business support services[103]

Types of business support services	In house		External	
	No.	%	No.	%
Pre-incubation services	66	11.7	15	3.3
Business planning and forming a company	62	11.0	25	5.5
Training to develop business skills	36	6.4	47	10.3
Accounting, legal and other related services	16	2.8	57	12.5
Market research, sales and marketing	31	5.5	52	11.4
Help with exporting and/or partner search abroad	28	5.0	42	9.2
Help with e-business and other aspects of ICT	39	6.9	35	7.7
Advice on development of new products and services	43	7.7	35	7.7
Help with raising bank finance, grants, venture capital	68	12.1	28	6.1
Incubator venture capital fund, business angel network	31	5.5	32	7.0
Advice on recruitment of staff and personnel management	32	5.7	35	7.7
Networking, eg with other entrepreneurs, customers	64	11.4	24	5.3
Mentors, board members and other senior advisers	38	6.8	27	5.9
Other services	8	1.4	3	0.7
Total/Percentage of participants	562	100	457	100.0

From this table it is clear that business incubators across Europe provide most assistance with pre-incubation services, assisting companies to raise bank finance, grants and venture capital, and networking with other entrepreneurs. It is also apparent that incubators rely on external networks for more specialised services such as accounting and legal assistance, exporting and developing business skills. The wider network of professional support in which the incubator is involved also influences the variety of services provided.

The US National Business Incubation Association (NBIA) has found that incubators where entrepreneurs have little experience tend to have structured programmes, with clear milestones and mandatory reviews of progress to plan. Whereas incubators with more experienced entrepreneurs have a more relaxed and available-on-demand approach to assistance.[104]

The incubator manager provides much of the business support and assistance to incubating companies. The concept of co-production can be used to understand the manager/tenant relationship and the impact incubation has on company development.[105] Co-production is traditionally used to explain a producer and consumer relationship, explaining the efforts by both to improve the outcome of their work.

Applied to incubation it explains the concept of the manager's involvement in co-production with incubating companies. The incubator manager is the regular producer; the incubator company is the consumer producer; the relevant output is business assistance.

The impact of co-production is driven primarily by the nature of the relationship between the incubator manager and the entrepreneur. This relationship is influenced by the manager's time dedicated to co-production; the entrepreneur's willingness to engage in co-production; the extent of co-production tools they use; and the intensity of the manager's interaction with the client company.[106]

Incubator managers who have the greatest impact invest more hours and time in co-production and involve a greater range of co-production modalities or business assistance tools.[107] Therefore the greatest impacting managers, in terms of co-production, are those seeking out problems or issues that they can respond to. These managers are actively involved in frequent engagement and on-going work with their tenant firms; they provide a full range of services in a proactive way. This tends to happen in incubators where managers are more eager to engage in co-production.

Despite this, the majority of companies report that managerial assistance is delivered on a reactive basis. This means that managers usually assist companies with short-term difficulties – which are identified by the tenant companies themselves. This implies that managers who become involved in co-production when they are responding to an enquiry are less effective. Unfortunately the EU Benchmarking Report (2002) argues that the number and diversity of tasks facing managers implies that 70% of managers spend less than 50% of their time working directly with tenant companies.

A significant variance also exists between entrepreneurs and their willingness and readiness for involvement in co-production and incubation assistance.[108] Each company varies in terms of their maturity and readiness to engage in co-production. Each company can be assessed in terms of its management team; the product or service; the market; the financial capacity and the level of understanding of the requirements to grow the company.

Based on this, there are two main groups for whom the incubation and co-production process is most successful and there are two main groups for whom it is less successful. Research shows that those in the first group value counselling and the services as being helpful. The second group indicate they do not find it as helpful, and do not look for the assistance as often as entrepreneurs in the first group.

One reason for this difference might be that entrepreneurs in the second group may not have as much need for counselling as those in the first. Therefore an incubator manager can categorise companies and identify how their time and resources should be best allocated to assist the company.[109] Rice and Matthews (1995) identified four different types of companies that exist within business incubators.[110] These four companies are called: Superstars, Up-and-comers, Anchor Tenants and Long Shots (Table 5).

Table 5. A typology of incubator companies
(*Source*: Rice, 2002: 184)

	Maturity of Company	
Readiness to Engage in Co-Production*	Superstars	Up-and-Comers
	Anchor Tenants	Long Shots

(*Source*: Rice, 2002: 184)

* Co-production, the relationship between the incubator manager and the client company

- Anchor Tenants are an asset to an incubator as they are reliable in paying their bills and support the incubator financially. However they do not engage in co-production with the incubator manager. Examples of anchor tenants include university technology transfer offices and economic development agencies.
- Long Shot companies are companies who have considerable need for co-production, but are not yet ready to engage. Their main benefits of being in the incubator are the supportive environment offered by the incubator and the space to allow them mature.
- Up-and-comers are companies who have significant resource gaps that can be addressed through co-production. These companies are run by entrepreneurs who have identified these gaps and recognise there is potential for engaging in co-production.
- Superstar companies have matured past the up-and-coming stage. They now rely less on co-production input from the incubator manager, although their willingness to engage is still high. These companies are now capable of overcoming crises and sustaining development without interaction with the centre manager. They act as role models for up-and-coming companies, but are likely to graduate from the centre shortly.

Rice (2002) suggests that the incubator manager should adopt a passive, reactive approach to helping entrepreneurs who are less reliant on the incubator services for their success. The manager however should focus attention and continued co-production with entrepreneurs who find that assistance helpful.

This would better focus the attention of the incubator manager and make better use of their time. This approach would also facilitate the need to move up-and-comer companies quickly into the superstar category. Rice (2002) also suggested that concentrating the managers' attention would provide an environment of peer-networking, training and also reactive co-production, which would still involve interaction with the less interactive companies.

Managers who find it difficult engaging in co-production and assisting tenant firms tend to be heavily involved in other elements of the incubation process such as economic development and fundraising activities to sustain the incubation programmes. This diverts their attention from the key incubation tasks. Ideally the manager could delegate some non co-production activities to other staff. They could also develop a multi-tiered approach to business incubation, dedicating more time to companies who are willing to participate in co-production.[111]

Using this model, an incubator manager could work with companies to rotate their positioning closer towards the Superstar category. However, the evolution of all companies to this rank is unrealistic, and undesired, as they would require more energy, assistance and time with the incubator manager than could be provided.

Regardless of the categorisation of company, there are certain practices which an incubator manager should follow when working with start-up enterprises.[112] Very importantly, care must be taken not to complete tasks for the company during coaching. This can undermine the entrepreneur's ownership of the business. It can diminish the entrepreneurial spirit and drive needed to successfully launch a new venture.[113] In addition, some of the following practical guidelines are useful to bear in mind when working closely with start up companies.

- Do not pressurise tenants into accepting assistance from the incubator
- Make sure that those who advise tenants are competent in their own specialities
- Concentrate support on giving business advice
- Use specialists in the local economic development agencies, the host institution, etc. as far as possible to provide business support
- Use the facilities and experts in the host institution to provide technical support
- Use the host institution to provide specialist workshop and laboratory services
- Carefully consider the justification of providing general purpose workshops and laboratories
- Make common workshops and laboratories available to external users
- Provide fast and easy access to good information sources
- Encourage the host institution or other supporting bodies to base a liaison officer in the incubator

Many incubators use their boards of directors to assist in the development of incubating clients. This approach is very effective as the directors become more involved in the incubating companies, a return for their significant investment in the success of the incubator. At the same time companies have access to individuals with substantial business experience, whose knowledge and contacts can help the company maximise its chances of success.

International Example of Best Practice

The Metropolitan Centre for High Technology has a mobile team of experts who help incubating companies in areas such as manufacturing, engineering and legal assistance. They also use the incubator board of directors for assistance. The board is informed of each incubating company and members either become involved themselves or match the company up with someone from their own network.[114]

The Idaho State University Business Technology Centre uses a 50 Hour Club where the university faculty, private business owners, accountants and attorneys are asked to volunteer 50 pro bono hours each. This time is placed into a *bank* which tenants can utilise for consulting services. Each tenant is given an account with 50 hours of credit. This free time can be spread over a range of business needs.

The programme was established with a clear set of written guidelines for both providers and consumers of the service.

- Only incubator tenants are eligible.
- Consultants will not do for tenants what they can and ought to do for themselves.
- Consultants will not be held liable by the tenants for their volunteer services and counselling to tenants. Tenants must sign to this prior to accepting consulting services.
- Tenants requests for services are made through the incubator manager.
- The manager screens all requests and refers to appropriate consultants.
- Requests should not place unreasonable time commitments upon consultants.
- Services, unless other arrangements are made, should be provided during normal working hours.
- The manager reserves the right to deny service requests deemed inappropriate or excessive.

The incubator manager developed an application process to identify if the tenants' requests are genuine (for example, tenants cannot use the time for tax preparation). In addition, screening promotes the best use of the consultants' time. The one-page Request for Services application form provides information on the tenant's name, company, phone number and date, the urgency of the request for services, the nature of services needed, the problem area, and the amount of time necessary to arrive at a solution. Tenants also indicate their preference for meeting times. Tenants must sign and date the form before its submission to the incubator manager.

The application is reviewed by the incubator manager and the tenant to determine the appropriate amount of time. The manager then reviews the consultants on file and finds one with relevant expertise. Both the tenant and the consultant's time are debited five hours. Times are recorded on the application sheets and placed in the file.

The programme has been seen as positive by the companies who make use of it, although overall usage has been somewhat lower than expected. Difficulties have included how time consuming the process is, how difficult it is to convince consultancy buy-in, especially when there is a shortage of critical mass of consultants locally. Difficulties can also arise in providing assistance in multiple areas to companies at different stages of development.

Based on these shortcomings, an alternative to the 50 Hour Club could be to organise a number of committees using the signed consultants to help the company through:

- Initial screening
- Admissions committee
- Product development committee
- Market development committee
- Organisational development committee
- Financial development committee
- Client funding committee

Irish incubators offer a wide range of support to incubatees. Most common supports include business assistance, legal assistance and financial advice. Irish incubators can help companies to access seed funding by organising events and inviting venture capitalists to attend. They also assist companies in their applications for public funding. Incubators provide softer supports such as psychological support and counselling through a supportive environment of like-minded people.

The business support services are delivered by the incubator manager or industry experts. Support is usually provided in an open door manner, where companies approach incubator managers when they have a particular problem or difficulty. Services are delivered in the form of one-to-one meetings, professional services clinics, group workshops and enterprise seminars or through informal interaction between the incubator manager and the incubatees.

Another way in which incubator managers support incubating companies is by conducting frequent progress reviews and by identifying and recommending future strategies and actions. (Company progress reviews are addressed on page 74).

Companies are also supported through the hi-specification office infrastructure and free of charge access to office facilities such as meeting rooms and board rooms which would not be available if located outside the incubator.

Many incubators run enterprise training programmes - one year training programmes for high technology companies delivered through a network of facilitators who provide workshops on business plan preparation, and standard topics such as patents, investment etc. The DIT Hothouse Enterprise Platform Programme is accredited with a Post Graduate Diploma in New Business Development. This is a value add for the entrepreneurs. Most of them are technically skilled and they therefore see value in the awarding of a business qualification.

Irish Examples of Best Practice – Business support

Business clinics and client forums

The M50 Enterprise Platform Programme, a year long enterprise training programme, runs a series of business clinics with partners at the Institute of Technology Tallaght, the Institute of Technology Blanchardstown, Dublin City University and University College Dublin.

Prior to each clinic, companies meet for a workshop on the specific topic. Companies must attend these workshops as homework for the next clinic is given and must be completed prior to participation. The companies are provided with a template to work on. The clinics then take place and companies are advised as to what areas they next need to develop. The choice of expert for the clinic is dependent on the content and stage of the programme.

Clinics are held every two weeks at the start of the programme. Following this clinics are held less frequently and companies are left to work more on their own. At the end of the year, the M50 manager and a team of experts assess each participating company on all aspects of their business. The last clinic is an exit clinic where the facilitators go through the business plan, outline the progress the company has made and help the company plan for future development.

NovaUCD runs monthly client forums where guest speakers are invited to present on key topics of interest for the incubating companies, as identified by the companies. Popular topics for discussion include corporate governance and company law, sales and selling skills. The forums are provided free of charge. The NovaUCD sponsor organisations regularly provide speakers for the client forums.

Invent at DCU is developing a system of clinics with services including a resident expert entrepreneur, accountant, legal expert, finance, marketing PR, and motivator. These clinics are open to all university staff. The clinics are delivered by industry experts with whom Invent has established relationships through its networking. This system of support will assist the management of smaller companies.

Mentoring programme

The Dublin Institute of Technology Hothouse Enterprise Platform Programme organises a buddy counselling scheme – graduate companies are asked to provide mentoring to participating companies who are experiencing similar difficulties as they themselves had. The companies are carefully matched by the programme coordinators.

Company Reviews

Company reviews are useful for providing external insight to the operations of a business, which may be overlooked by the company founders. They can also act as a method of practice for the companies to communicate what it is they do. Specifically, client reviews provide focus to both client and incubator actions, ensuring the client and incubator achieve their goals. They ensure the client is committed to launching the venture and graduating from the incubator.[115]

Many centres have a regular process for evaluating client progress. Implementing a monitoring process is quickly becoming part of many incubation programmes.[116] This review of company development can include weekly discussions with client company managers and formal documentation of client results.

Rice[117] recommends that client review systems should include intensive review and analysis of the company progress. They should identify and monitor clear milestones which are set as part of a business development programme.

International Example of Best Practice – Company reviews

Clients in one for-profit incubator in Amsterdam sign an agreement to report on specific aspects of their businesses, including financial and product development, marketing, and management. Incubator staff register the information on a monitoring sheet, which they update monthly. This sheet includes target and achievement dates for milestones set in the company's agreement; the number and roles of personnel; monthly budget/income statements; and a list of major issues that the company needs to address. Clients must also specify which of their employees will address each issue and when.

Investment managers then meet weekly with clients to discuss their progress in these areas. According to the director of corporate development and support, companies do not object to providing financial information. They know it is kept strictly confidential and the management also feels they cannot assess plans if they do not know the figures.

Most Irish incubators operate a client review system. Their frequency ranges from every two weeks to every quarter, to every six months. The incubator can sometimes require accompanying documentation during the reviews – either a simple summary of progress or a fully up-dated business plan. The extent to which managers require prepared information varies according to each manager and their approach to supporting start-up companies. Some incubator managers feel that entrepreneurs are already busy pursuing commercial activities and they do not wish to divert their attention. However, other managers see that entrepreneurs might avoid administration work, and that by preparing a report for the review the entrepreneur is adapting good practice of informal reporting. Below are some of these examples.

Irish Examples of Best Practice – Company reviews

NovaUCD conducts health-checks with its clients on a regular basis. The progress of the company, their respective needs, and the company's assessment of the incubation facilities are discussed at these meetings.

Invent at DCU has developed a plug and play approach to business development. Companies in Invent submit milestones to the incubator manager that are linked into a spotcheck assessment. Based on feedback during the assessment Invent can use its network of contacts to assist any company experiencing difficulties.

Formal reviews are organised on a quarterly basis at ICELT, National College of Ireland. These involve the incubatees preparing a progress presentation before the advisory board and receiving feedback and advice from them.

The Midlands Innovation and Research Centre at Athlone IT organises bi-monthly health-checks which clients must agree to attend. At the health-checks the companies present their business plan which is discussed with the manager during the meeting. The manager then makes recommendations which should be pursued in the future. During the clinics objectives are set for the short, long and medium terms.

Networking

A business incubator has two networking roles to play. With the first, the incubator must establish its own network of contacts to assist in providing support, training and counselling for companies. The second role involves organising and facilitating networking opportunities for incubating companies.

As companies mature in the incubator they no longer require assistance with generic business concepts, but will require specialised information, industry knowledge and market specific issues. These will become more critical to their survival.[118] Because one person alone cannot be knowledgeable enough in each product or market, the incubator manager must establish a strong network of contacts to supplement their own skills and knowledge. This is known as a know-how network.[119] These are important for the success of any incubator as they complement and augment the resources of the incubator.

While it may be difficult to establish this network when first setting up a business incubator, best practice suggests the process becomes easier once the incubator establishes its own identity and it becomes an initiative worth being associated with. The incubator manager should use the incubator advisory board, or use organisations that work with small businesses, as a starting point for the know-how network. The manager should aim to gather a collection of experts who provide services to the incubator at a low charge or pro bono basis. These experts are an important component of the value-add associated with incubators, as it can be more difficult for external start-up companies to access these resources.

There are many reasons professional companies participate in the know-how network. It can be because of self-interest, because of the potential of lucrative clients in the future, the PR of being associated with the incubator and its clients, and/or their goodwill to reinvest in the community. Incubator staff can use this information to identify and attract the professional firms. By promoting what can be achieved from the relationship, the incubator staff should be successful in attracting local professionals who may be looking for such an opportunity.

Regardless of how an incubator establishes a wider network, it is something that should be pursued from the outset. Without the support of these professionals, it is felt the value of the incubator and the services it offers to new ventures diminishes.[120]

Client networking has long been a recognised benefit of business incubation. Psychological, instrumental and developmental benefits can be gained through interactions and relationships with like-minded peers.[121] There are eight factors that influence interactions within the incubator. These are:

- Types of businesses
  It is easier for companies in similar industries to share equipment, obtain contacts and learn from each other.
- Personal characteristics
  Some entrepreneurs prefer less interaction and are not suited to an incubation environment, the success of which depends on interaction and willingness to take advice and accept criticism.
- Stage of Development
  Entrepreneurs at similar stages of development face similar challenges and benefit from sharing problems and solutions. Entrepreneurs at earlier stages of development can also learn from those further advanced.
- Space
  The layout of incubators can encourage and facilitate networking. Popular suggestions include a wide entrance, windows from client spaces into halls and meeting rooms and common lunch and meeting areas.
- Forums
  Enterprise seminars and lunchtime meetings help create learning and interaction.
- Critical Mass
  The greater the number of firms in the incubator the more likely entrepreneurs will be to find others with common interests or problems or resources. Alternatively, incubator programmes that are too large can make networking more difficult.
- Norms and attitudes
  The incubator should promote norms and attitudes that include sharing, support, openness to ideas and friendly relations. Clients who fail to show these characteristics from the start should be discouraged from joining the centre.
- The incubator manager
  This is the most important influence on company interaction.[122] An incubator needs an incubator manager to drive and encourage networking and interaction, through leading by example.

To facilitate networking, the incubator manager should organise a variety of events within the incubator. During these events, the manager should stick to a firm agenda and keep an information focus to the meeting.[123] Otherwise, literature suggests that get-togethers within the incubator can turn into ‘gripe’ sessions.

Networking events, such as breakfast mornings are said to be useful for participants. They provide tenants with an opportunity for honest exchange of experiences. While networking events are useful, it can be difficult to regularly organise such meetings because of busy schedules.

In order to maximise attendance, the incubator manager should avoid having the meetings at certain times. Late afternoon, mid-week and mid-month are the best times. Avoid the busiest times for tenants such as Mondays or Fridays.[124] Incubators should also run open-house events where the incubator manager invites members of the community to a range of events, in order to attract broad attention to the incubator. Community and industry leaders could also be invited to evening meetings once a month. Open sessions are another way of solving start-up problems, as someone in the audience may have faced a similar difficulty.

International Example of Best Practice – Networking

Best practice suggests charging for the networking events to cover part of the costs. The aim of the meetings is not just networking, but also to emphasise knowledge and skills. One incubator runs networking events on a membership basis. If the member cannot attend, they can send someone else in their place. The cost of membership is $200. Charges for events can be rated on whether or not you are a member.

Irish incubator managers identify and value the role networking plays in the success of the incubator. Managers point to the subliminal social and networking benefits that companies enjoy by simply locating in close proximity to one another. Each incubator facilitates networking between companies within the incubator and the broader commercial community through organised events.

Some incubators have identified difficulties with the attendance at these functions. This has caused managers to question the need for formal networking events, as entrepreneurs may be more interested in getting on with their businesses than attending organised events.

Other managers feel that events are only attended by company proprietors, which will always result in small attendances anyway.

Each incubator manager also highlighted the importance of developing their own know-how network to support their role as incubator manager and to build a portfolio of services and contacts for the incubator. The process of identifying and locating the best mix of external support is considered a process of trial and error. However, one manager has found that good trainers and facilitators are usually good at locating other skilled facilitators. For their programme much of their external assistance was located through the facilitators already involved in the programme.

Many managers are involved in networks such as First Tuesday, Wireless Wednesday, and Plato. First Tuesday and Wireless Wednesday are privately managed business clusters supporting growth, learning and knowledge sharing. They involve educative networking events focused on creating industry clusters. Events include commercialisation events for networks of Irish university researchers, basic meet and greet networking events, opinion-forming events and education and knowledge sharing events.

Plato is a two year SME development programme aimed at helping owner managers develop management skills, business linkages and strategic vision. Plato has a network of small businesses, with over 4,000 SMEs across six European countries.

Irish Examples of Best Practice – Networking

Developing a know-how network

Recently, Forfás selected the M50 Enterprise Platform Programme, a year long enterprise training programme, as a noteworthy example of a growing network of public and private organisations. The M50 develops networks by attending ceremonies and launches, by liaising with Enterprise Ireland and other organisations such as VCs and through liaising with County Enterprise Boards. The M50 programme tutors also have extensive networks of key contacts. Networking through these sources (past participants, support agencies, award sponsors and key Enterprise Ireland staff) provides ongoing linkages that open critical doors for M50 participants.

The coordinators of the Hothouse Enterprise Platform Programme at Dublin Institute of Technology have found that once one good facilitator is located, they are invited back again and again. They have also found that good facilitators tend to know other good facilitators. Therefore, much of the assistance they contract in is recommended by existing facilitators.

TCD is part of the PANEL Programme. PANEL is one of the PAXIS (the Pilot Action of Excellence on Innovative Start-ups) thematic networks. It is a three-year project aimed at improving the support structures for innovative start-ups and improving communication between the participating regions (Barcelona, Dublin, Milan and Sofia).

TCD is also a member of the SUN&SUP Network, which is a start-up network for entrepreneurs and service providers that asks: “What are we not doing at the moment to help companies?” It proposes new tangible measures to contribute to the enhancement of the European start-up environment.

Networking within the incubator

Each business incubator holds different networking sessions within the centre. These events facilitate the companies in getting to know each other better, and when outside guests are invited, provide greater commercial opportunities.

Participants of the M50 Enterprise Platform Programme are introduced to Speed Networking^{TM} and are pushed to develop an intriguing elevator pitch and to use it at various networking events.

Attendance

Participants on the M50 Enterprise Platform Programme must agree to attend the clinics or workshops prior to starting the course.

The Midlands Innovation and Research Centre at Athlone IT is aware from the start whether an event will be popular amongst clients or not, based on feedback they receive after suggesting the event. Some topics will always get interest. Especially topics such as IPR, and failed yet still successful entrepreneurs.

Most networking events at NovaUCD are attended by company promoters rather than their staff which implies attendance is typically small.

Virtual Incubation

Business incubation provides both office space and business development assistance to entrepreneurs. Not every start-up however needs to rent space at an incubator facility. The business support services that are of most importance for the development of companies have been identified and isolated. They have been repackaged in a new concept called virtual incubation.[125] Virtual incubation facilitates companies who want to avail of business support services within the incubator, but who do not wish to locate there.

Through virtual incubation, businesses which are too big to join the incubator, those established in their own premises, or those which do not fit the stringent entry criteria for the limited space available in the incubator, can still benefit from the incubation process.[126] Virtual incubation differs from regular incubation in that it provides continuous long-term added value through regular organised events, training and advice. For a small monthly charge, virtual incubator clients can receive a wide range of services, such as:

- Access to conference rooms and office equipment at the incubator facilities;
- Attendance at workshops at no charge or discounted fees;
- Business assistance through business reviews;
- Access to professional clinics;
- Option to utilise any of the incubator's network of contacts;
- Inclusion of company information on the incubator website;
- Subscription to the incubator electronic newsletters;
- And addition to the incubator's email distribution list to receive notices and news updates.

The concept is increasing in popularity in Ireland. Nova UCD, Invent at DCU and the Research and Innovation Centre at AIT all provide a virtual incubation service to external companies. This service for the most part centres around a business address service, including some of the services mentioned above. In addition, they gain access to secretarial/receptionist services and networking events. In Invent participants are also included in the incubator's client profile on the website and on promotional material.

Irish Examples of Best Practice – Business address service

Companies availing of the NovaUCD business address service are allocated a mailing address and are included on the NovaUCD distribution list for seminars, workshops and can book meeting / seminar rooms.

The Midlands Innovation and Research Centre at Athlone IT currently offers a virtual office space to companies wishing to use the incubator address and facilities, but not wishing to locate in the incubator.

The DCU Invent Virtual Incubation Programme began in October 2004. The programme is hoped to become a feeder for the incubator. Invent at DCU takes on 10 virtual incubation companies a year. Participants are charged a flat fee for the service and join the programme for one year. They can avail of the Invent facilities and take part in the clinics. They are also given a profile on the Invent website. Participating companies are mainly based in Dublin city.

Incubator Evaluations

Incubators are encouraged to complete regular evaluations on the incubation process. Evaluations are important to identify key areas for improvement. Without carrying out evaluations, planning decisions could be made based on intuition or political grounds and could misrepresent the reality of the programme and its environment.[127] Therefore, by carrying out evaluations an incubator can reduce any uncertainty that may be involved in planning improvements.

Evaluations identify where the incubator is performing well and performing poorly. Evaluation of the incubation programme can serve to:[128]

- Enable more effective and systematic monitoring of an incubator's finances;
- Facilitate communication between stakeholders and incubator managers as to the priorities given to various elements of incubator performance;
- Provide a comprehensive identification and assessment of a more complete set of incubator outcomes against which financial inputs can be compared;
- And identify areas where expenditures can be brought into balance with the incubator's own revenues, such that the need for subsidy is progressively lessened.

Incubator evaluations should involve all stakeholders including entrepreneurs and sponsors.[129] By carrying out evaluations, an incubator maintains contact and guarantees communication between the incubator and the stakeholders. The evaluation process involves comparing practices and procedures against incubator goals and objectives.

Differences can exist between stakeholders and managers as to the understanding and prioritisation of incubation tasks. Therefore there is a risk in carrying out evaluations as conflict may arise. However a benefit of carrying out evaluations is the opportunity to build consensus.

The evaluation goals and questions that must be answered should be determined before conducting evaluations. This decides the most appropriate research tools that should be used. For example, would interviews, focus groups or questionnaires obtain the correct information? The type of evaluation being carried out determines this choice. Best practice suggests incubation centres should evaluate both the service they offer to incubating companies, as well as their internal processes and procedures.

Decisions regarding the future of the incubator will have greater impact if they are based on input from incubating companies.[130] The EU Benchmarking Report found that many incubators carry out regular evaluations of the service they provide to incubating companies. This information is usually obtained from informal contact with the companies, regular meetings with clients and stakeholders and regular surveys of clients and stakeholders.

An incubation programme can be refined when management determine whether they are offering the value promised to clients.[131] Incubator managers must question whether participation in the incubator programme makes any significant difference to the development, survival and success of enterprises.[132] There are three major self-assessment questions managers must ask:

- Does location in the incubator and/or receipt of incubator services appear to make a difference to the development of enterprises?
- What features and services of the incubator are most valued by entrepreneurs?
- Are there gaps in the supply and demand and the availability of features and services, as perceived by entrepreneurs and incubator management?

In the US an assessment database is available to evaluate incubator management information.[133] Managers complete a comprehensive self-assessment test based on internal data. This tool highlights a number of incubation features that need ‘significant’ improvement in most incubators. These features are outlined below. Included in this list are some documents essential for the successful management of business incubators. Therefore, this list should also be used as a checklist and guarantee that these documents exist. The most important topics for review and evaluation include:

- Feasibility studies and business plans
- Financial records:
    - operating statements
    - balance sheets
    - cash flow statements and projections
    - accounts receivable and accounts payable
- Periodic reports to boards of directors, stakeholders and/or funding agencies
- Time utilisation records (It is difficult to judge effectiveness, productivity or the cost of various activities if the incubator manager and staff do not maintain adequate time records by activity):
    - How staff devote their time

    - Staff commitments
    - Charts could be prepared for all staff to use – recording daily activities in quarterly time-slots
- Records reflecting the provision of services to entrepreneurs and their firms
- Materials defects lists and capital improvement plans
- Leasing records
- Personnel evaluation files
- Tenant and staff handbooks

Incubators may already have some self-assessment procedures in place. However it is important that information gathered from these approaches be shaped to meet specific needs. Information must be taken from interviews, meetings etc and used for an assessment framework.

To ensure quality, the same questions should be asked consistently over a certain time period. This framework would weigh and interpret information from different angles, and provide an assessment that is systematic or all encompassing rather than one that is partial and ad-hoc. By assessing the information on many different grounds, the risk of partial and ad-hoc findings is eliminated. Without adhering to good research practice, it may be difficult to prove an incubator's performance.

Below are some examples of Irish incubators that carry out evaluations of their services. The focus of these evaluations is on the delivery of service to incubatees rather than internal processes and procedures.

Example of Best Practice – Incubator evaluations

NovaUCD hosts quarterly meetings with company promoters to assess and identify their primary needs and difficulties with the centre. The meetings are attended by NovaUCD staff and the majority of the companies send representatives.

Two Institute of Technology business incubation centres are ISO 9000 approved. Part of the ISO accreditation involves the incubating companies evaluating the incubator. ISO 9000 is therefore useful for obtaining feedback from incubating companies and highlighting changes that should be made to incubation practice.

Gender Equality

The six Operational Programmes (OPs) of the National Development Plan 2000-2006 (NDP) require all projects to adhere to gender equality guidelines. The Gender Impact Assessment for the measure relating to provision of incubation space states: "It is hoped that the provision of (incubation) facilities will make it more attractive to women who are qualified in science or technology to start their own companies."[134] Therefore the Programme Complements of the BMW and Southern and Eastern OPs to fund Institute of Technology incubation centres require that:[135]

- Conditions of support require colleges to promote access to female entrepreneurs where possible;
- Gender equality should be a criterion in project selection;
- Gender-disaggregated employment data in enterprises should be collected.

There are a number of key areas in which incubation management can apply good practice in terms of gender equality. These include: the tenant selection process; raising gender awareness with incubating companies; encouraging and supporting female entrepreneurs; and employing incubator staff. The following section addresses these areas and recommends different approaches to good practice.

Company selection process

Gender equality recommendations do not require incubators to adjust entrance criteria in order to increase the number of female entrepreneurs. Instead they urge incubator managers to be more aware of gender equality when recruiting and selecting companies.

Managers should question if there are any barriers in their incubator that can lead to creating a gender imbalance. These should then be corrected to ensure that incubation is as attractive an option for both men and women. Incubators should also ensure that members of their selection and interview committees are familiar with gender equality legal requirements.

In addition the incubator should adhere to NDP recommendations as to the make-up of its decision making boards, committees and groups. The NDP suggests moving towards a

40:60 gender composition for committees and groups.[136] A 40% representation level provides a critical mass of men or women on a committee. It also reflects government policy in relation to the composition of state boards.

Raising gender awareness with incubating companies

Incubator managers are in an important position to raise gender awareness with incubatees. They should encourage companies to incorporate equal opportunity awareness into their policies. They should also provide access to expert advice through clinics and information days with gender equality experts.

Companies should be made aware of committee and board gender balance recommendations. Adapting best practice in their work environments becomes particularly important as companies increase their workforce. As a fair employer, the companies should consider terms and conditions of employment and flexible employment options (such as flexitime, job-sharing, part-time work, paternity leave, term-time working).[137]

Encouraging and supporting female entrepreneurs

This can be achieved by providing additional programmes, by assessing and better understanding the needs of female entrepreneurs, and by providing the necessary support to meet their needs. Incubator managers can also provide more female role models and ensure an equal balance in terms of male and female guest speakers. When inviting consultancy companies or professional services companies the manager could request them to send female staff as often as they send male staff. Incubator managers could also locate and provide more female mentors to work with the companies.

Incubator as employer

As the incubator grows, it too becomes an employer. As the host institute owns the incubator, the recruitment and employment of staff is handled through the HR department where best practice is automatically employed. However, being aware of legal requirements and best practices (for example when organising meetings, when setting up board and committee membership) is also useful for incubator managers in creating a better work environment within the incubator.

Gender equality does not set targets that aim to achieve 50:50 representation of men and women. These ratios can vary from 80:20 or 70:30. They should instead be set depending on the pool of women and men available to take part, and therefore depend on what is realistic to aspire to in the current situation. As incubation typically accepts and supports knowledge-intensive science, technology or engineering type companies and entrepreneurs, a 50:50 representation would be difficult to achieve in the current climate. This reflects an under-representation of women in these industries, especially in more senior positions.

The 2002 Census showed that more than three quarters of the people in scientific and technical occupations in Ireland were male. There were also more men in each sub-area except that of laboratory technician. The census showed that almost two thirds of people working as lecturers in universities, ITs and higher education were male. The GEM report of 2003 also showed that less than one in twenty women versus one in eight men were entrepreneurially active.[138]

There are practical, cultural, attitudinal, institutional and economic barriers preventing greater entrepreneurial participation by women. Table 6 below addresses these barriers in greater detail.

Table 6. Barriers to greater representation[139]

Barrier	Example	Ways to overcome barriers
Practical	Times of meetings	Vary times to encourage people with dependants to participate, provide childcare, arrange convenient venues for meetings that are accessible by public transport
Cultural	Language of meetings	Provide explanation and glossary of terms. Ensure atmosphere of meetings is friendly and encouraging; respect all contributions. Offer training to on how to make committees more woman-friendly. Provide training or mentoring to women who could take up the role of member/adviser/observer.
Institutional	Lack of female representation	Organisations should nominate more women to achieve better balance of representation. If an organisation is nominating two members then ask for one to be male and one to be female. Invite equality experts to advise on gender issues. Create transparent criteria for decision-making positions.
Economic		Remunerate non-statutory representatives for their participation. Allow non-statutory representatives to claim travel expenses for their attendance.

To address gender awareness the Irish Government has adopted gender mainstreaming to promote equality between women and men in the NDP. [140] Gender mainstreaming is the process of incorporating gender equality issues into every stage of policy development, implementation and evaluation. It tries to ensure that the different needs of women and men are built into the cycle of policy design, policy implementation, and policy evaluation. [141] Further information is available on NDP requirements, gender proofing, gender policies, work-place enhancements at www.ndpgenderequality.ie or www.equality.ie. [142]

Best Practice – Gender equality

Best Practice includes:

- Establishing gender mainstreaming when developing policies
- Keeping statistics
- Ensuring diversity on recruitment and selection panels
- Providing women mentors
- Encouraging and conducting research in area
- Increasing crèche facilities or providing access to childcare facilities on campus (this is not about encouraging female entrepreneurs, but supporting parents with childcare issues. It could attract entrepreneurs to the incubator, not specifically female entrepreneurs and become a valuable promotional tool)
- Celebrating successful female entrepreneurs
- Using successful cases to exemplify and spread awareness
- Looking to other industries. e.g. Lifesciences has highest proportion of successful female women as CEOs; use them as case studies to encourage other women.
- Inviting speakers from women's groups to advise on creating smart policy and reducing barriers. e.g. Women in Technology and Science www.wits.ie
- Improving promotion of activities (who is the face of the organisation? Do you include both men and women speaking at each event?)
- Highlighting the gender dimension of the organisation

"Best practice in gender equality is not just an issue of gender equality, but equality in general. It is nothing overt, it is more subtle. It is professional to have this outlook."

Health and Safety

Each business incubator must have in place a clear and precise health and safety policy. It is also a requirement by company law that start-up companies prepare health and safety documents.

Many business incubators are covered under the Health and Safety policy of the host institute, or have adapted this policy to the specific needs of the incubator. The incubators then share this information with tenant companies who can use it as a template for developing their own policies. The host institutions also offer advice to incubating companies during this process. Below are some examples of Irish best practice in health and safety.

Irish Examples of Best Practice – Health and safety (H&S)

- The Business Development Centre is operated under the H&S regulations of Letterkenny IT. The H&S Authority and the Waste Management Authority will deliver workshops for companies.
- At Sligo Innovation Centre each business is responsible for developing a H&S statement, but can use the Innovation Centre H&S statement for guidance. The Institute H&S department has been helpful in giving advice and templates and will run advisory workshops in the incubation space when it opens.
- NovaUCD has its own safety statement. The Centre for Safety and Health at Work, which is located in NovaUCD, is also available to help train and educate resident companies on their legal obligations with respect to H&S issues.

Conclusions and Recommendations

This chapter provides a summary of the key findings and recommendations for the management of campus business incubators. The recommendations deal primarily with issues relating to the establishment and running of incubators in the first few years of operation.

From reviewing the literature on best practice in incubation, it is possible to say that best practice in business incubation means two main things. It means concentrating on the business development of incubating clients, not focusing on real estate operations; and adopting a pro-active business development approach instead of a reactive response to client requests.

Managing a business incubator successfully is a difficult task due to the different demands that exist on the incubator resources. Best practice recommends three specific Principles of incubation. The incubator manager should:

> (i) Focus the energy and resources of the incubator on developing companies;
> (ii) Manage the incubator as a business, i.e. minimise the resources spent on overheads and develop a self-sustaining efficient business operation;
> (iii) Develop a sophisticated array of services and programmes that can be targeted to companies, depending on their needs and stage of development.

Incubator programmes should focus attention on enterprise development. The incubator should develop policies and procedures which are used as rules to manage the centre and to ensure quality processes are implemented. The selection of practices outlined are complementary and will only have maximum impact if used in conjunction with each other. Summarised below are some of the key practices critical to the success of the incubator.

Advisory Board

Every centre should have an advisory board. Ideally the board should be established before the centre starts operating. It could be set up before the manager is appointed and have a role in that appointment. The ideal incubator advisory board provides strategic direction and leadership for the incubation centre. The composition of the board should change as the needs of the incubator change. The board should start off small and flexible in order to adapt to the requirements of the incubator as the centre itself grows. The board should be composed of a mixture of individuals in terms of characteristics, background, and skills. Industry experts are essential; strong industry representation will better facilitate the commercial progress of the incubator. Its members can provide mentoring and access to their personal networks for incubating clients.

Mission/Vision/Passion Statement

A mission statement serves as the backbone of an incubator, as it provides the overall context for strategic decisions. An incubator mission statement should state the fundamental reason(s) for the incubator's existence. It should establish the range of the incubator's activities and provide an overall direction for the incubator. A good mission statement should be general, not specific. It should look to the future, not the present or past. It should also reflect the incubator's unique strengths. Mission statements are not cast in stone; they should change over time.

License and Lease Agreements

There are three types of contractual agreements incubators tend to establish with incubatees. These are lease agreements, license agreements and service agreements. These can be defined as:

- Lease agreement – a contract that grants a client an exclusive right to space in an incubator for a specific period in exchange for rent.
- License agreement – a contract that outlines services a client will receive, including use of space, and the license fees a client will pay in exchange for those services.
- Service agreement – a contract that delineates the services an incubator will provide and a client's obligations to make use of those services. The service agreement does not encompass real estate issues. Incubators occasionally execute them in addition to a lease or license agreement.

Irish campus incubators tend to issue clients with license agreements. License agreements are more related to the <u>use</u> of the space rather than the rights of the tenant to the space. Service agreements are popular practice in US incubators.

Intellectual Property

Intellectual property (IP) should be considered in the context of the different types of clients of an incubator unit. Some clients may come from the associated third level institution and some may come from outside. Each may bring with them or create IP and different circumstances will arise depending on the source, ownership and type of IP.

Each higher level educational institution should have in place an intellectual property policy which clearly states the stake, rights, and responsibilities of the institution and its staff.

It is important for all those involved to have a clear understanding of IP as it is a complex legal area and expensive mistakes can be made by failing to understand the different forms of IP and how they operate in practice.

Innovations can be protected in a variety of ways. An IP policy does not just deal with inventions. Many other developments in colleges and campus companies such as, for example, software, may be protectable by copyright and secret know-how.

In general IP belongs to its creator, but where the creator is employed by an organisation, the IP belongs to the employer.

- **Patents:** Researchers in third level institutions should file patent applications through the college which as their employer is both owner and patent applicant of any inventions arising from work done in the college. In patent law the inventor can be separate from the patent applicant, thus inventors in colleges can be named on patent applications without the financial and legal responsibilities of patent ownership. Where a campus company has been incorporated, any inventions arising after the date of incorporation where the inventor is an employee of the company will belong to the company. Similarly for clients coming from outside. They may bring patent rights with them from the origins of the project, but ownership of later inventions will generally be within the control of the company in the absence of other contractual arrangements.
- **Copyright:** Copyright belongs primarily to the author or creator of an original work, but if the author is an employee, the copyright belongs to the employer. It is important therefore to identify authors of copyright work in software development.
- **Other forms of IP:** The general principles of ownership apply, i.e., the creator is the owner, but if the creator is an employee, the employer is the owner.

- **Joint Ownership:** Ownership of IP jointly by more than one organisation or individual is to be avoided as it can result is serious administrative difficulties and problems in commercial exploitation.

Commercial Exploitation

Commercial exploitation can take many forms depending on the type of project and type of IP. In general, commercial exploitation means that some organisation makes and sells a product or offers a service. It is from this that the revenue is obtained which rewards the owners of the IP.

In the case of a project originating in a college, it would be normal for the IP to be licensed or assigned to a commercial company. The technology may then be exploited by manufacturing or by licensing on to other organisations. Licensing is where a royalty or other payment is made for the use of the technology and IP. Assignment is where the ownership of the IP is transferred, usually as a commercial transaction with a payment for the purchase of the rights.

Role of the Centre Manager in IP

The centre manager should be in a position to give preliminary advice to clients concerning IP related issues, but is not expected to be a legal expert. He/she should be familiar with the college's IP policy and its implementation and should also have received sufficient training in IP to be able to give some advice and to know when to refer clients to appropriate sources of professional advice or funding, for example, from the IP Unit of Enterprise Ireland..

The manager will have to distinguish between clients originating in the college and those coming in from outside. Each will have different ownership structures and may therefore be bound by certain policies or be free to operate without constraints.

It is important that the centre manager should be aware of issues of confidentiality concerning clients and their work so as to ensure adequate security in the building and to facilitate where required, meetings and disclosures to potential partners or investors under the correct conditions.

Equity

Incubation centres throughout the world are involved in equity and royalty arrangements with incubating clients. Taking equity in a company can represent a source of funds independent of rents, subsidies and income from services. Incubators should not include the dividends from equity shares in their revenue stream.

Equity ownership has the potential to create conflicts of interest as equity holders are part owners of the company. Equity has the potential to create bias or influence the attention of incubation staff and their assistance, which could influence the company to sell-out or go public. Therefore equity policy should be developed to: (i) manage or eliminate actual or perceived institutional conflicts of interest; (ii) safeguard against stock price manipulation or speculation; and (iii) avoid any adverse effect on the reputation of the college and its faculty, staff, and students.

The average equity stake taken by Irish incubators is 15% for internal companies and 5-6% for external companies. This equity stake is taken as payment for the assistance companies receive from the incubators in the commercialisation process, as well as the status of the university association.

Advocates of equity highlight its importance for future income, payment for services and assistance and attracting sponsoring companies. However incubators may find it difficult to persuade external companies as to the merits of taking equity in their company.

Legal Structure

Most campus incubators in Ireland operate as part of the host institution with no separate legal identity. However, some institutions have decided to set up a separate company, either wholly owned or with other shareholders. There is much debate surrounding each model. However, there are both advantages and disadvantages associated with each approach. Table 7 outlines the structures which Irish colleges have decided on.

Table 2. Legal Structures

Separate legal company ▪ Operates as a separate commercial entity ▪ Greater autonomy to the incubator in terms of purchasing power and decision-making. ▪ Commercial body dealing with tenants (Companies may not seek same latitude with limited company as they might with a public entity) ▪ Can register for VAT (of most benefit with capital expenditure) ▪ Can subcontract services such as IT, services, facilities
As part of the college ▪ Operates as another department of the college ▪ Demonstrates unity between the incubator and the college ▪ Eliminates risk of a them-and-us attitude throughout the campus ▪ Relies more on institution departments such as facilities, estates and IT for the operation of the incubator ▪ Ability to leverage costs by using resources and facilities of college ▪ Purchase order numbers raised through the college finance department

Relationship with Host Institution

The success of this relationship is essential for the success of campus-based incubation. The incubator should be integrated into the college network and play a key role in driving entrepreneurial activity throughout the campus. Literature suggests that the incubator manager should initiate and drive interaction with the host institution. Establishing relationships with host institutions requires making sure both sides can benefit from the partnership. However, much negotiating and interaction must take place between the incubator and the institute to achieve this.

Much can be gained from this relationship. Firstly, the incubator can leverage the resources of the college. These resources include IT, marketing, HR, finance, Development Office and Technology Transfer office, as well as campus facilities such as childcare, sports and entertainment facilities. Companies can collaborate with R&D activity within the college, access networks of specialised technical assistance providers, qualified workforces, specialised laboratories and equipment.

Developing this relationship can be challenging and something that is not readily achieved in the short term. However, through commitment and a partnership approach, many have discovered its multiple advantages. These are achieved through a forward-thinking incubator manager who achieves institution buy-in by selling the relationship in a positive light to those from whom they need involvement. One way of considering the situation is: "*The university is an organisation, and organisations do not do things. People do things – once you locate that person who can help you – then it's all one-on-one from there."*

Best practice suggests numerous initiatives in which the incubator and institution can work together for the benefit of incubating companies. First and foremost it is recommended that the incubator manager should establish links with the Heads of Department or School and other senior faculty members. Through them relationships can be established with other institution staff, encouraging them to become involved and showing how it can be of benefit to them.

There is much to gain from establishing the relationships and from developing ties with the necessary people. As with the international examples, Irish incubator operators develop these ties by identifying the most enthusiastic staff and promoting to them the benefits of incubation.

Role of Incubator Manager

The success of an incubator is heavily dependent on the person appointed as incubator manager. The primary role of the incubator manager is to provide support to start-up companies. This is primarily through business assistance and advice and through ensuring high quality premises, services and facilities. However because of limited resources and the many demands on their time, the manager should focus on coordinating the delivery of good services and should work with other agencies that can provide complementary and additional services to incubatees. Therefore the incubator must be part of a wider network in which companies can receive additional support.

In the US and in more established centres, the role of incubator manager can be split into an incubator president and an operations manager. The incubator president/manager focuses their time on working with incubatees, structuring governance procedures, and developing early stage marketing of the incubator to the entrepreneurial community. The operations manager manages the business functions of the incubator and carries out day-to-day contact with the incubator company employees.

Viability/Resources

Each incubator must be self-sustainable in order to achieve its maximum impact. While host institutions absorb some of the costs of campus-based incubators, incubators rely primarily on cash flow from their own operations for income. Despite extensive services offered at US incubators, and separate charges for rents and business services, rental incomes are still the highest generator of revenue.

Incubator managers should always implement selective admission criteria even if there is strong pressure to achieve rental income. Incubators solely relying on rental income to cover expenses can face difficulties. There is always the possibility of less than 100% rent collection when dealing with start up companies – a reasonable collection rate would therefore be 90-95% of receivables. Incubators should also take care if relying on any one tenant for regular income as their cash flow difficulties could threaten the financial stability of the incubator.

Incubators that take royalty revenue and equity shares in companies should not rely on the shares as sources of income, but should treat the income as a windfall – if and when it does happen. Staff salaries are the largest operational costs of most incubation centres. However, a lack of staff is often the largest resource shortage in incubation centres.

Marketing

The incubator manager must be active in promoting the centre and recruiting companies from outside. Marketing strategies play a major role in incubator activity and tenant recruitment. Marketing objectives should always be set by members within the organisation as opposed to being set by an external marketing company.

The marketing process should begin prior to the incubator opening. When developing a marketing strategy, it is important to set the objectives of the plan, identify where the entrepreneurs' weaknesses lie and to show how the incubator services can assist with them. For example, most entrepreneurs suffer from stress and isolation. Therefore, marketing of incubators should highlight how incubation can remove some of these worries. Priority must be paid to creating an accurate marketing plan, which must not oversell the services of the incubator. Once the objectives have been identified, the incubator manager must then identify what media should be used.

Selection Process

Selection processes are necessary to ensure the quality of clients in the incubator. Most incubators face difficulties in reaching break-even points and in achieving rental revenue. This issue forces incubator managers to face a problematic trade-off. Should the incubator accept each applicant company in order to create revenue streams, or should the incubator accept fewer companies, but focus on those who fulfil the objectives of the incubator?

The selection of companies should be aligned with the purpose and objectives of the incubator. The purpose and objectives of the incubator are to assist the highest potential companies in achieving sustainability and growth. These objectives should dominate the selection of incubating companies.

Incubators should have a formal selection process in place. However, managers must employ instinct when considering prospective clients. Application processes are usually backed up by at least one face-to-face interview. Informing unsuccessful entrepreneurs as to why they were not accepted to the centre is another important part of the application process. Prospective tenants can sometimes be accommodated in enterprise training programmes or hot desk facilities.

Exit Strategy

Exit strategies exist to ensure the incubator remains focused on helping start-up companies and to encourage start-up companies to grow and develop past the incubation environment. Incubators should have procedures in place to encourage clients to leave as soon as they are capable. There are different strategies to nudge incubator clients from the incubation space. The most commonly used practices include: using time limitations, escalating rental rates and using graduation benchmarks. To guide the graduation process, managers should always ask two important questions:

- Does the company still benefit from a presence in the incubator?
- Does the incubator benefit from the firm being a client?

Companies should be aware of the exit policies of the incubator from when they first take space. The incubator should be involved in the graduation and relocation process. This implies that one of the most important stages of the graduation process is the assistance incubation centres provide to companies in relocating and in graduating from the centre. However incubation centre managers also face the related difficulty of achieving and managing sustainability within the centres. The average length of stay in Irish incubators is two years nine months.

Company Support

The scope of business support provided at incubators can range from pre-incubation services to providing support in raising finance. All forms of business assistance provided by an incubator present start-up companies with credibility and an increased opportunity for raising finance and creating stronger management teams. The incubator resources are limited to providing only some of these in-house. The rest of these services are therefore typically contracted out to external companies.

Business incubators across Europe provide most assistance with pre-incubation services, assisting companies to raise bank finance, grants and venture capital, and networking with other entrepreneurs. Incubators rely on external networks for more specialised services such as accounting and legal assistance, exporting and developing business skills.

The wider network of professional support in which the incubator is involved also influences the variety of services provided. The most value-added support for incubating companies is offered to companies in a proactive rather than a reactive manner. A reactive approach can have short-term results and fail to fully identify the cause of the problem. However, resource constraints and lack of time can prohibit managers from implementing a proactive approach to company support.

Some companies are likely to respond better to incubation support than others and seek it on a more regular basis. There are typically four different types of companies that exist within business incubators. These four companies are called: Superstars, Up-and-comers, Anchor Tenants and Long Shots.

There are two main groups for whom the incubation and co-production process is most successful and who frequently seek assistance (Superstars and Up-and-comers). There are also two main groups for whom it is less successful and who approach the incubator manager less often, perhaps due to greater resources and ability (Anchor Tenants and Long Shots). Incubator managers can categorise companies and identify how their time and resources should be best allocated to assist each company (Table 8). Incubator managers can channel energy and resources to those companies whose productivity following assistance is likely to be highest.

Table 5. A typology of incubator companies
(*Source*: Rice, 2002: 184)

	Maturity of Company	
Readiness to Engage in Co-Production*	Superstars	Up-and-Comers
	Anchor Tenants	Long Shots

(*Source*: Rice, 2002: 184)

* Co-production, the relationship between the incubator manager and the client company

- Anchor tenants are an asset to an incubator as they are reliable in paying their bills and support the incubator financially. However they do not engage in co-production with the incubator manager. Examples of anchor tenants include university technology transfer offices and economic development agencies.
- Long Shot companies are companies who have considerable need for co-production, but are not yet ready to engage. Their main benefits of being in the incubator are the supportive environment offered by the incubator and the space to allow them mature.
- Up-and-comers are companies who have significant resource gaps that can be addressed through co-production. These companies are run by entrepreneurs who have identified these gaps and recognise there is potential for engaging in co-production.
- Superstar companies have matured past the up-and-coming stage. They now rely less on co-production input from the incubator manager, although their willingness to engage is still high. These companies are now capable of overcoming crises and sustaining development without interaction with the centre manager. They act as role models for up-and-coming companies, but are likely to graduate from the centre shortly.

Company Reviews

Incubators should have in place frequent reviews of incubatees. During this process incubator managers and sometimes a panel of experts meet with the companies to assess their progress and provide support, assistance and advice. Milestones or targets can also be agreed. Client reviews provide focus to both client and incubator actions, developing a monitoring process of the company's progress.

These are opportunities for the incubator manager to assess company progress and opportunities for the companies to seek advice. Company reviews are useful for providing external insight to the operations of a business. The frequency of reviews can range from every two weeks to every quarter to every six months.

Networking

Networking is essential for the success of an incubation centre. There are two levels of networking within the business incubator environment. With the first, the incubator must establish its own network of contacts to assist in providing support, training and counselling for companies. The second role involves organising and facilitating networking opportunities for incubatees.

As companies mature in the incubator they will require specialised information, industry knowledge and market specific issues. These will become more critical to firm survival. The incubator manager must establish a strong network of contacts to supplement their own skills and knowledge.

This is known as a know-how network. While it may be difficult to establish this network when first setting up a business incubator, best practice suggests the process becomes easier once the incubator establishes its own identity and becomes an initiative worth being associated with.

The incubator manager should use the incubator advisory board, or use organisations that work with small businesses, as a starting point for the know-how network. The manager should aim to gather a collection of experts who provide services to the incubator at a low charge or pro bono basis. These experts are an important component of the value-add associated with incubators, as it can be more difficult for external start-up companies to access these resources.

Regardless of how an incubator establishes a wider network, it is something that should be pursued from the outset. Without the support of these professionals, it is felt the value of the incubator and the services it offers to new ventures diminishes. Irish incubator managers identify and value the role networking plays in the success of the incubator. They are all involved in facilitating networking between companies within the incubator and the broader commercial community.

Virtual Incubation

Companies who wish to avail of business support services within the incubator, but who do not wish to locate there, can avail a new concept called virtual incubation. Through virtual incubation, businesses too big to join the incubator, or who do not fit the stringent entry criteria for the limited space available in the incubator, can still benefit from the incubation process. Unlike consultancy, virtual incubation is pro-active and works by identifying and adding long-term value. For a small monthly charge, virtual incubator clients can receive a wide range of services. For example:

- Access to conference rooms and office equipment at the incubator facilities;
- Option to utilise any of the incubators network of contacts;
- Inclusion of company information on the incubator web site.

Incubator Evaluations

Evaluations should be carried out on incubation programmes to identify key areas where improvements can be made. Evaluations identify where the incubator is performing well, and performing poorly. Incubator evaluations should involve all stakeholders including entrepreneurs and sponsors. The evaluation goals and questions that must be answered should be determined before conducting evaluations. In order to assess performance the same questions should be asked consistently over a period of time.

Gender Equality

The Programme Complements of the regional Operational Programmes measures to fund Institute of Technology incubation centres require that:

- Colleges promote access to female entrepreneurs where possible;
- Gender equality will be a criterion in project selection;
- Gender-disaggregated employment data in enterprises will be collected.

Incubators can play a role in achieving gender equality through implementing the following practices:

- Establishing gender mainstreaming when developing policies
- Keeping statistics on female applicants and clients
- Ensuring balanced gender representation on recruitment and selection panels
- Providing a balance of women mentors
- Providing access to childcare facilities on campus
- Celebrating success of female entrepreneurs
- Gender balance in promotion of activities (Who is the face of the organisation? Do you include both men and women speaking at each event?)

Health and Safety

Each business incubator is required to have in place a clear and precise health and safety policy. It is also a requirement by company law that start-up companies have health and safety documents in place. Many business incubators are covered under the health and safety policy of the host institute. Incubators should share this information with incubating companies who can use the information as a template for developing their own policy.

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