



Co-funded by the
Erasmus+ Programme
of the European Union



Work Package 2
DIFME COUNTRY REPORT

Ireland



Contents

Introduction.....	4
Goal of DIFME.....	4
Main Aims.....	4
Aims of this element (WP2)	4
Country Fact Sheet Analysis.....	5
Country Overview:.....	6
Scale and nature of micro business in Ireland.....	6
SME Policy Priorities and Entrepreneurship:	7
Relevant Current Activities and Studies.....	8
Course Analysis	8
DIFME Online Survey Results	10
General Demographics and Background of Respondents	10
Financial Literacy	10
Digital Internationalisation	13
Training Preferences	15
DIFME Expert Survey Results	17
Highlights of SME interviews	17
SME survey results	17
Conclusions and Recommendations	22
Summary	22
Anomalies	22
Topics emerging from the study	23
Financial Literacy	23



Co-funded by the
Erasmus+ Programme
of the European Union

Digital Internationalisation Skills	23
Classifying the Financial Literacy topics to set up WP3	24
Classifying the Digital Internationalisation skills to set up WP3	24
Implications for Methodology emerging from the study.....	24
Appendix - Feedback Interviews from Arista Networks.....	25



Introduction

Goal of DIFME

The goal of the DIFME project is to reduce the rate of early-stage failure in newly created enterprises by improving the standards of financial literacy in micro-entrepreneurs and increasing their ability to utilise digital skills to internationalise their businesses.

Main Aims

The DIFME project seeks to deliver a curriculum to meet the real needs of entrepreneurs in the areas of financial literacy and digital skills. Through an in-depth analysis of the needs of entrepreneurs and the entrepreneurship programmes offered by Higher Education Institutions in the EU (and beyond) it will identify the fundamental competencies required in the two disciplines and the gaps in existing provision. The project will then design and test a curriculum to deliver these skills in a combination of methods including an e-learning platform

Aims of this element (WP2)

The primary aims of this element of the project are to:

1. Assess the core competencies required in the two disciplines
2. Identify content and method gaps in current provision
3. Make preliminary recommendations for WP3- Development of the Learning Model.

Country Fact Sheet Analysis

Living standards are high in Ireland, with recent improvements underpinned by the strongest post-crisis output recovery in the OECD. The Irish economy has demonstrated impressive durability over the past three decades. Average wages are now comparable with the top tier of OECD countries and income inequality is reduced through the highly redistributive tax and transfer system. At the same time, the population report a high level of work-life balance, feel safe in public spaces and have strong social connections.

<http://www.oecd.org/economy/ireland-economic-snapshot/>

The Gross Domestic Product (GDP) in Ireland was worth 333.73 billion US dollars in 2017. The GDP value of Ireland represents 0.54 percent of the world economy. GDP in Ireland averaged 87.99 USD Billion from 1960 until 2017, reaching an all time high of 333.73 USD Billion in 2017 and a record low of 1.94 USD Billion in 1960.

<https://tradingeconomics.com/ireland/gdp>

The Irish economy shifted from an agriculture to a knowledge economy, focusing on services and high-tech industries. Economic growth averaged 10% from 1995 to 2000, and 7% from 2001 to 2004. Industry, which accounts for 46% of GDP and about 80% of exports, has replaced agriculture as the country's leading sector.

Ireland is an open economy (6th on the [Index of Economic Freedom](#)), and ranks first for high-value foreign direct investment (FDI) flows

<https://www.irishtimes.com/business/economy/ireland-named-best-country-for-high-value-fdi-for-sixth-year-in-a-row-1.3204594>

In the global [GDP per capita tables](#), Ireland ranks 5th of 187 in the IMF table and 6th of 175 in the World Bank ranking. The major uncertainty facing the Irish economy is the threat of Brexit as we have major trading and social interaction with the UK and share a border between the North of Ireland (British) and the independent territory in the South.

Keys actors in the Tech sector have located in Dublin.

Google	Logentries	Viddyad	Amazon
Facebook	Hedgeguard	Zalando	Linkedin
Accenture	Pinterest	Arista Networks	Dropbox
Airbnb	Saongroup	Twitter	SurveyMonkey
TripAdvisor	Sohalo	HubSpot	Groupon
Indeed	Tenable	Wolfgang Digital	Yelp
Squarespace	Dogpatch Labs	ZOO Digital	PayPal

See Appendix – Feedback from Arista Networks

Country Overview:

Scale and nature of micro business in Ireland

In Ireland, there are a quarter of a million businesses 90% with less than 10 employees. They employ 400,000 people about a quarter of the total workforce

(Central Statistics Office (2018). Business Demography 2016. CSO statistical release 04 July 2018. https://pdf.cso.ie/www/pdf/20181024015127_Business_Demography_2016_full.pdf

There is a strong receptivity to digital technology.

Figure 1 Innovation and Digital Technology

Innovation - new products, new services, new ways of doing things

- Levels of innovation in Irish micro-businesses in Ireland are higher than those in the UK and USA.
- 40 per cent of micro-businesses introduced a new or improved product or service in the three years prior to the survey.
- One in four micro-businesses introduced new business models or forms of organisation in the three years prior to the survey.
- The percentage of sales derived from innovative products and/or services is approximately 11 per cent.

Uptake of Digital Technology: Trends & Patterns

- From a relatively low base in 2012, diffusion of digital technologies by micro-businesses in Ireland is strong and growing.
- Uptake of digital technologies by micro-businesses in Ireland compares well with those in the UK and is considerably higher than those in the USA.
- The most popular digital technologies among micro-businesses in Ireland are Cloud Computing and Web-based Accounting Software, with 40 per cent of micro-firms using these technologies.
- 34 per cent of micro-businesses in Ireland are using E-Commerce, while 26 per cent and 17 per cent are using Computer-Aided Design (CAD) and Customer Relationship Management (CRM) respectively.
- There is little variation in the average number of technologies adopted by micro-businesses across the regions of Ireland.
- However, approximately one in four micro-businesses have not adopted any digital technology.

BOURKE, J. AND S. ROPER (2019). MICRO-BUSINESSES IN IRELAND: FROM AMBITION TO INNOVATION. CORK: CORK UNIVERSITY BUSINESS SCHOOL, UNIVERSITY COLLEGE CORK.

The information and views set out in this publication are those of the authors and do not necessarily reflect the official opinion of the European Union. Neither the European Union institutions and bodies nor any person acting on their behalf may be held responsible for the use which may be made of the information contained therein.



The Department of Business, Enterprise and Innovation published a comprehensive study on the impact of digitalisation on the Irish economy:

<https://dbei.gov.ie/en/Publications/Publication-files/Digital-Transformation-Assessing-Impact-Digitalisation-Irelands-Workforce.pdf>

[The study identified six technologies critical to the next wave of digitalisation:](#)

- a. Internet of Things (IoT)
- b. Cognitive Computing and Artificial Intelligence (AI)
- c. 3D printing
- d. Augmented Reality (AR) and Virtual Reality (VR)
- e. Robotics
- f. Blockchain

SME Policy Priorities and Entrepreneurship:

The policy for entrepreneurship in Ireland was set out in “NATIONAL POLICY STATEMENT ON ENTREPRENEURSHIP IN IRELAND” 2014

The document set out strategic objectives in six key elements to create an effective ecosystem for entrepreneurship in Ireland:

1. Culture, human capital and education
2. Business environment and supports
3. Innovation
4. Access to finance
5. Entrepreneurial networks and mentoring
6. Access to markets

And may be viewed or downloaded from

<https://dbei.gov.ie/en/Publications/National-Policy-Statement-on-Entrepreneurship-in-Ireland-2014.html>

There is, at least nominally, a huge commitment to start-up and micro business in Ireland primarily managed by two government departments, Department of Business, Enterprise and Innovation and Department of Education and Skills but with niche courses promoted by other departments.

There are extensive grant support schemes administered through Enterprise Ireland

<https://www.enterprise-ireland.com/en/funding-supports/>

The Irish Revenue Commissioners provide an excellent section on their website for anyone intending to start a business. <https://www.revenue.ie/en/starting-a-business/index.aspx>

The information and views set out in this publication are those of the authors and do not necessarily reflect the official opinion of the European Union. Neither the European Union institutions and bodies nor any person acting on their behalf may be held responsible for the use which may be made of the information contained therein.

The country is awash with private and EU/state backed initiatives in enterprise support, for example:

- Thirty-one “dedicated teams in the Local Authorities nationwide” providing support guidance and mentoring
<https://dbei.gov.ie/en/What-We-Do/Supports-for-SMEs/Local-Enterprise-Office/>
- At least 30 HEI linked incubators and accelerators
<https://www.enterprise-ireland.com/en/Researchers/Spin-Outs/Incubation-Centers-Maps-and-Contacts.html>
- Sixteen Education And Training Boards (ETBs)
<http://www.solas.ie/pages/partnerspage.aspx>

A serious analysis of the topic in Ireland would be far beyond the scope of this project.

Relevant Current Activities and Studies

The extensiveness and range of supports in Ireland is as much a weakness as a strength due to the confusion, lack of standardisation and variability in terms of quality in service delivery.

The Department of Business, Enterprise and Innovation (DBEI) has expressed concern about this and is conducting a study to prepare recommendations to help streamline and establish standardisation in content and delivery.

The Small Firms Association of Ireland (SFA) will soon publish the results of a major survey which will provide emphatic evidence of seriously low levels of financial literacy in micro and SMEs in Ireland.

Course Analysis

There are rafts of courses and other interventions in the areas of entrepreneurship, finance, digital and other business skills provided by the eight universities, eleven Institutes of Technology and five other colleges. See Figure 2 and a full list of the courses in the “Ireland for Country Report” tab in the *21.06.2019 DIFME - Study Programme Evaluation*.

Non academic adult courses are provided through: Local Enterprise Organisations (LEOs), industry Skillnets (part funded by the EU), Business Innovation Centres, sixteen Education and Training Boards under SOLAS the Further Education and Training Authority (FET) and by private training firms as well as training within industry carried out by individual companies to meet their specific needs.

Enterprise training is provided for school goers through global organisations such as BizWorld and Junior Achievement.

The information and views set out in this publication are those of the authors and do not necessarily reflect the official opinion of the European Union. Neither the European Union institutions and bodies nor any person acting on their behalf may be held responsible for the use which may be made of the information contained therein.

Figure 2- HEIs in Ireland

University	Institute of Technology
Dublin City University	Athlone Institute of Technology
University College Cork	Cork Institute of Technology
National University of Ireland, Galway	Dun Laoghaire Institute of Art and Design
Maynooth University	Dundalk Institute of Technology
Trinity College Dublin	Galway-Mayo Institute of Technology
University College Dublin	Institute of Technology Carlow
University of Limerick	Institute of Technology Sligo
TU Dublin	Institute of Technology Tralee
	Letterkenny Institute of Technology
Other Colleges	Limerick Institute of Technology
Royal College of Surgeons in Ireland	Waterford Institute of Technology
Royal Irish Academy	
St Angela's College	
National College of Art & Design	
Mary Immaculate College	

DIFME Online Survey Results

A total of 53 complete and valid responses were received for the online survey in Ireland.

The following tables extracts highlights from each of the four series of questions and the detailed responses are available online <https://www.surveymonkey.com/results/SM-FVGL6JQFV/browse/>

General Demographics and Background of Respondents

Number	Question	Highlights
3.	In which industry do you/does your business operate?	1. "Information and Comm." dominated at 36% 2. "Financial and Insurance" and "Education" tied on 14% each Only 1 respondent selected "Manufacturing"
4.	Which of the following professional situations fits you best?	1. Business owner 44% 2. Business Manager 19% 3. Like to start (18%) 4. None of the above (15%) 5. Will in <12 Months (4%)
5.	What is the legal status of your business?	1. Limited Liability Company (49%) 2. Sole Proprietorship (29%) 3. Shares traded in SM (12%) What is the distinction is between Limited Liability and Privately traded shares?
6.	How many employees are employed in the business, including yourself?	1. Micro 1-9 (68%) 2. => 250 (17%) 3. 10-49 and 50-249 both scored 7%
7.	When was the business established?	1. More than 15 Years (42%) 2. 0-2 (24%) 3. 3-5 and 11-15 (12% each) 4. 6-10 (10%)
8.	How old are you?	Even split between over and under 46
9.	What is your gender?	88% male
10.	What is the highest level of education you have completed? (EQF levels)	1. Bachelor's (38%) 2. Master's (32%)

Financial Literacy

Number	Question	Highlights
--------	----------	------------

11.	How would you rate your financial literacy?	Over 62% rated themselves as good or very good. Only 13% rated themselves as poor or very poor.																				
12.	Could you please indicate (a) which of the following financial products/services you have heard of, (b) which are held or have been held by your business, and (c) which you believe may be required for your business in the future?	The responses appear dubious and not helpful in identifying training needs e.g. less than half the respondents have heard of supplier credit and at least one third have heard of things like insurance, leasing, loans and bank accounts!																				
13.	Do you require assistance from external sources, such as a bank or financial advisors, in order to make decisions about financial products/services?	<ol style="list-style-type: none"> 1. No (59%) 2. Yes (34%) 3. Don't Know (8%) 																				
14.	Do you have a written financial plan for your business?	<ol style="list-style-type: none"> 1. Yes (45%) 2. No (32%) 3. N.A. and Don't know (23%) 																				
15.	Who is/will be responsible for bookkeeping in your business?	<ol style="list-style-type: none"> 1. Tie between "you" and "external accountant" At 28% each 2. Internal Accountant (25%) 																				
16.	Do you personally keep an eye on any of the following? (tick all that apply):	<table> <tr> <td>The housing market</td> <td>68%</td> </tr> <tr> <td>Taxation</td> <td>62%</td> </tr> <tr> <td>Interest rates</td> <td>60%</td> </tr> <tr> <td>The job market</td> <td>53%</td> </tr> <tr> <td>Government benefits</td> <td>47%</td> </tr> <tr> <td>The currency (money) market</td> <td>45%</td> </tr> <tr> <td>Inflation</td> <td>43%</td> </tr> <tr> <td>Pension plans</td> <td>43%</td> </tr> <tr> <td>The stock market</td> <td>38%</td> </tr> <tr> <td>None of the above</td> <td>11%</td> </tr> </table>	The housing market	68%	Taxation	62%	Interest rates	60%	The job market	53%	Government benefits	47%	The currency (money) market	45%	Inflation	43%	Pension plans	43%	The stock market	38%	None of the above	11%
The housing market	68%																					
Taxation	62%																					
Interest rates	60%																					
The job market	53%																					
Government benefits	47%																					
The currency (money) market	45%																					
Inflation	43%																					
Pension plans	43%																					
The stock market	38%																					
None of the above	11%																					

17.	Please select the correct definition of (a) a balance sheet, (b) a cashflow statement and (c) a Profit & Loss (P&L) statement.	Results support the self regard in q. 11 with <ul style="list-style-type: none"> • 90% correctly identifying the Bal. Sheet • 94% correctly identifying the Cash Flow • 88% correctly identifying the P & L But the questions are token and the definition of cash flow offered is unusual to say the least.
18.	Are the following statements true or false?	Answers indicate a clear understanding of risk/return in simple situations...
19.	Could you please indicate on a scale from 1 (low) to 5 (high) how proficient you are in each of the following financial literacy skills?	Difficult to interpret this question. Basic Payment... top at 3.76 weighted average Registration, Taxes etc and Seeking financial protection for the business lowest at 2.9 The rest between 3 and 3.4.
20.	<p>Could you please indicate on a scale from 1 (low) to 5 (high) how important you think these skills are for running a business?</p> <ul style="list-style-type: none"> • Basic payment and deposit services • Financing the business • Registration, taxes and other legal requirements • Keeping records and accounting • Short-term financial management • Planning beyond the short term • Personal risk and insurance • Business risk and insurance • Recognising external influences • Seeking financial protection for your business • Obtaining financial information, education and advice 	“Financing the business” and “Keeping records and accounting” top at over 4.5. Only “Personal risk and insurance” scored below 4.

21.	Could you please indicate on a scale from 1 (low) to 5 (high) whether you would be interested in attending a course or training in any of these skills?	“Financing the business” top at 3.64 weighted average with “Basic payments and deposit services” lowest at 2.79 The rest were between “Neither...” and “Interested”
-----	---	--

Digital Internationalisation

22.	Where do/will you conduct business?	Domestic markets only (36%) Intending and already in foreign markets combined (45%) Unexpectedly high “Don’t knows” at 17%
23.	Do/will you advertise your products and/or services online?	72% Positive
24.	Do/will you sell your products and/or services online?	64% Positive
25.	Are you interested in internationalising your business (expanding it into foreign markets using digital (technology-based) tools and channels)?	69% Positive and 31% Negative (don’t know not offered as an option)
26.	How often do you make use of the following digital tools for business purposes? <ul style="list-style-type: none"> • Email • Digital Newsletter • Website • Social media platforms like Facebook, Instagram, Twitter etc. • Business online platforms such as LinkedIn, Xing, etc. • Online selling platforms, like eBay, Amazon etc. 	E-mail most used (94% daily) Website (78%) Cloud (64%) The rest fall below 50% daily Lowest usage Online selling platforms and digital newsletters (17 and 6 percent respectively)

	<ul style="list-style-type: none"> • Online communication services such as Skype, messenger etc. • Cloud storage Other digital tools (please specify which and how often)																							
27.	Could you please indicate on a scale from 1 (low) to 5 (high) how proficient you are in each of the following digital skills? <ul style="list-style-type: none"> • Email • Digital Newsletter • Website • Social media platforms like Facebook, Instagram, Twitter etc. • Business online platforms such as LinkedIn, Xing, etc. • Online selling platforms, like eBay, Amazon etc. • Online communication services such as Skype, messenger etc. • Cloud storage Other digital tools (please specify which and how often)	Working remotely (away from office) is top at 4.45 WA Above 4 WA <ul style="list-style-type: none"> • Email • Using the internet to source goods/services from suppliers • Advanced spreadsheets (like Excel/Google sheets etc.) Lowest (<3 WA) <ul style="list-style-type: none"> • Internet of things • Digital marketing • Big data analytics • SEO (Search Engine Optimisation) • Selling online/e-commerce • Digital strategy • Online marketplaces • Industry 4.0 																						
28.	Could you please indicate on a scale from 1 (low) to 5 (high) how important you think these skills are for running a business?	<table border="1"> <thead> <tr> <th>Skill</th> <th>WA</th> </tr> </thead> <tbody> <tr> <td>Cybersecurity</td> <td>4.63</td> </tr> <tr> <td>Managing relationships with customers online</td> <td>4.47</td> </tr> <tr> <td>Email</td> <td>4.46</td> </tr> <tr> <td>Using the internet to source goods/services from suppliers</td> <td>4.41</td> </tr> <tr> <td>Updating website content</td> <td>4.17</td> </tr> <tr> <td>Social media for business purposes</td> <td>4.15</td> </tr> <tr> <td>Digital strategy</td> <td>4.14</td> </tr> <tr> <td>Digital marketing</td> <td>4.12</td> </tr> <tr> <td>Selling online/e-commerce</td> <td>4.12</td> </tr> <tr> <td>Working remotely (away from office)</td> <td>4.11</td> </tr> </tbody> </table>	Skill	WA	Cybersecurity	4.63	Managing relationships with customers online	4.47	Email	4.46	Using the internet to source goods/services from suppliers	4.41	Updating website content	4.17	Social media for business purposes	4.15	Digital strategy	4.14	Digital marketing	4.12	Selling online/e-commerce	4.12	Working remotely (away from office)	4.11
Skill	WA																							
Cybersecurity	4.63																							
Managing relationships with customers online	4.47																							
Email	4.46																							
Using the internet to source goods/services from suppliers	4.41																							
Updating website content	4.17																							
Social media for business purposes	4.15																							
Digital strategy	4.14																							
Digital marketing	4.12																							
Selling online/e-commerce	4.12																							
Working remotely (away from office)	4.11																							

		Project management tools	4.06
		Advanced spreadsheets (like Excel/Google sheets etc.)	4.04
		SEO (Search Engine Optimisation)	4.04
		Business Intelligence	4.02
		Creating website content	4
		Monitoring use of website e.g. through Google analytics	3.98
		Big data analytics	3.8
		Online marketplaces	3.75
		Building a website	3.68
		Internet of things	3.49
		Industry 4.0	3.4
29.	Could you please indicate on a scale from 1 (low) to 5 (high) whether you would be interested in attending a course or training in any of these skills?	<p>Top two are</p> <ul style="list-style-type: none"> • Cybersecurity 3.65 • Digital strategy 3.51 <p>All others are between 3 and 3.5 except the bottom three:</p> <ul style="list-style-type: none"> • Using the internet to source goods/services from suppliers 2.79 • Working remotely (away from office) 2.65 • Email 2.63 	

Training Preferences

30.	What is your preference in terms of training delivery method?	<p>One to one was least popular at 19%</p> <table border="1"> <tbody> <tr> <td>1.</td> <td>Classroom/Instructor-led</td> <td>38%</td> </tr> <tr> <td>2.</td> <td>Blended</td> <td>34%</td> </tr> <tr> <td>3.</td> <td>Online or e-learning</td> <td>30%</td> </tr> </tbody> </table>	1.	Classroom/Instructor-led	38%	2.	Blended	34%	3.	Online or e-learning	30%
1.	Classroom/Instructor-led	38%									
2.	Blended	34%									
3.	Online or e-learning	30%									
31.	How much time would you be willing to invest in training on financial literacy and digital internationalisation (including online and independent learning)?	<p>0 to 25 hours by far the most popular at 53%</p> <p>26 to 50 hours next at 34%</p>									
32.	Which delivery mode would you prefer?	<p>Flexi top choice at 77%</p> <p>Part time was the choice of 23%</p>									

		Not a single respondent chose full time!
33.	Would you be interested in obtaining a certification after completing such a course?	64/36 split in favour of certification but note the references to this in section 6 – “Expert Survey Results”
34.	What is your preference in terms of assessment tools for such certification?	“Multiple-choice” tests top choice at 62% followed by “Completing assignments” at 45% But again, there is some interesting commentary on this in section 6 – “Expert Survey Results”



DIFME Expert Survey Results

We interviewed four subject matter experts:

- Two with audio recording using the DIFME Expert Interview Questions circulated by Leonie on 8 June
- Two non recorded interviews using a format we prepared and then subsequently transposed to Leonie’s format

We will scan the hard copies of the documents and upload them if appropriate.

Highlights of SME interviews

The SMEs rated the levels of financial literacy as poor at best and the financials as the weakest area in business plans.

The distinction between learning about enterprise with a view to knowing about it (academic) and having an idea and pursuing it (SYOB courses, incubators and accelerators) is critical.

This is particularly relevant in:

- Delivery mode – “if they are serious about starting a business then they need to commit full time”
- Certification – not valued by “non-academic” entrepreneurs
- Timetabling – necessary for “courses” but unstructured for incubators/accelerators

This is a major issue for DIFME, and we need to be conscious of the distinction when designing the learning model. We have at least two distinct audiences.

While one-to-one may be an effective method of teaching there are safety issues for both teacher and student.

Multiple choice testing is easiest for grading and marking. Assignments are the best to measure understanding and ability but may not be solely the students own work.

Interviews to discuss and probe real understanding combined with assignments are the most accurate measure of assessment.

SME survey results

#	Question	Responses
---	----------	-----------

1.	Role	2 Heads of Programmes at University. One Director of an Incubator and one lecturer in business, economics and entrepreneurship				
2.	Typical Clients	One to a full-time student group, two on a part-time Diploma course on starting a business and one on a graduate incubator				
3.	Delivery Methods	Classroom, flipped classroom, blended and e-learning				
4.	Recommended methods	Classroom, flipped classroom, blended and e-learning and one-to-one				
5.	Duration	0-25 hours but caveat for commitment to start-up				
6.	Full, Part or Flexi	One full time, three undecideds				
7.	Certification	Yes, for academic no for people in process of starting				
8.	Cert valued?	As above				
9.	Assessment	Continuous, assignments, interviews, multiple choice, interviews				
10.	Favoured method	No clear favourite but see highlights				
11.	Levels of F. Literacy	Poor to very poor				
12.	3 FL skills missing	Cash flow projections, communicating with advisers, testing the viability of business plans and payroll/tax/deductions, numeracy e.g. on the hoof calculations of discounts				
13.	Able to read/prod.	No				
14.	Require ext. assist	Yes				
15.	Have a written FP	No				
16.	Who does BK'png	Internal accountant, family member, external accountant				
17.	To what extent are following addressed in yours and other courses you are aware of...					
		Not addressed	Mentioned Briefly	Explained but not applied	Explained and applied briefly	Explained and applied extensively
	Basic Payments and Deposit	1			1	2
	Financing the business					4
	Registration etc	2		1	1	
	Records and accounting	2		1		1
	Short T Fin Man	1			1	2
	Plan beyond ST			2		2
	Personal risk and Insurance	3	1			
	Recognising Ext Influences				1	3

	Seeking Fin Protection	3	1			
	Get fin info educ and advice			1		3
18.	Any progs address above	Specialist technical and business courses in HEIs and other providers				
19.	Which should be included in DIFME?					
	Payment & Deposit	1				
	Financing the Biz	4				
	Registration etc	4				
	Records and accounting	2				
	Short T Fin Man	4				
	Plan beyond ST	3				
	Personal risk and Insurance	2				
	Recognising Ext Influences	2				
	Seeking Fin Protection	1				
	Get fin info educ and advice	4				
	other	Crucial that they know what their key numbers are i.e. Revenue, Cost of Sales and Salaries				
20.	Where biz conducted	All domestic but hoping for foreign				
21.	Advertise online	Two not asked as interview conducted prior to receipt of template One said yes to all One said yes to Q21 and Q22 but "Yes and no" to Q23 as some ventures do not lend to online selling				
22.	Sell online					
23.	Interested in Digital					
24.	To what extent are the following tools already addressed in your programme					
		Not addressed	Mentioned Briefly	Explained but not applied	Explained and applied briefly	Explained and applied Extensively
	Email	1				3
	Digital Newsletter	2		1	1	
	Website			2	1	1
	Soc Media e.g. twitter			2	1	1
	Biz ones like LinkedIn			2	1	1

	Online selling like amazon	1		2	1	
	Online Comms like Skype	1		2	1	
	Cloud storage			2	1	1
	Other (please specify)	Google Hangouts for blended learning, Azure, AWS, HubSpot, Slack, TeamWork, Intercom, Shopify				
25.	Where trained now?	Assume on marketing and technical courses but don't really know Online, LEOs and AD Hoc				
26.	Which should we incl	Social media for business and online selling platforms like Amazon All tools which will help sell and promote the business All except E-mail and Online communication services				
27.	The following is a list of digital internationalisation skills that could be included in the DIFME training programme. To what extent are these skills already addressed in your teaching / training / mentoring programmes, or in others that you are aware of? (This question will help us avoid duplication with what is already available).					
	Two not asked as interview conducted prior to receipt of template					
		Not addressed	Mentioned Briefly	Explained but not applied	Explained and applied briefly	Explained and applied Extensively
	Working remotely	1	1			
	PM tools		1			1
	Internet to source		1			1
	Advanced SS				1	1
	Building a website				1	1
	Creating content				1	1
	Updating content				1	1
	Monitoring/Analytics				1	
	SEO Optimisation			1		1
	Email				1	1
	Social Media for biz					2
	Digital strategy				1	1
	Digital Marketing				1	1
	Online marketplaces	One answered Don't know			1	
	Selling online/Ecommerce				1	1
	Cybersecurity			1		1

	Rel. with clients online				1	
	Big data analytics			1		
	Business Intelligence		1	One answered Don't know		
	Internet of things		1			
	Industry 4.0		1			
	Data protection				1	1
28.	Two not asked as interview conducted prior to receipt of template. One – specialised courses One – special workshops and one-to-one mentoring					
29	Digital skills we should use					
		Mention Briefly	Explain but not apply	Explain and apply briefly	Explain and apply Extensively	
	Working remotely	2				
	PM tools				2	
	Internet to source			2		
	Advanced SS		1		1	
	Building a website				1	
	Creating content				1	
	Updating content					
	Monitoring/Analytics				1	
	SEO Optimisation			1		
	Email				2	
	Social Media for biz				2	
	Digital strategy				2	
	Digital Marketing				2	
	Online marketplaces					
	Selling online/Ecommerce				1	
	Cybersecurity				2	
	Rel. with clients online				1	
	Big data analytics					
	Business Intelligence					
	Internet of things			1		
	Industry 4.0			1		
	Data protection				2	

30	Further comments	Use short focused practical sessions on the DIFME programme
----	------------------	---

Conclusions and Recommendations

Summary

WP2 has emphatically reinforced DIFME’s HUB concept. The online survey and expert interviews clearly show a distinction between HEIs helping students to learn about enterprise and incubators such as Ignite in UCC helping graduates with a business idea to pursue it.

The distinctions are not so much about content as in areas such as:

- Certification – essential in academia but a perceived distraction in live start-up situations where the focus is on ...
- Timing – timetabling is essential for “courses” (in industry as well as HEIs) but learning is much more reactive in start-up situations where progress is erratic and unpredictable, and this is where the loosely structured environments of the incubators and accelerators shine.
- Individual responsibility – while students taking responsibility for their own learning is a given there is a much more anarchical situation in non HEI situations where the structures and disciplinary measures are significantly weakened.

The HUB will allow us to offer a plug-in module where people can dip in and out where and when they like and use topic/situation appropriate methods.

The “audio” i.e. face to face survey method was far more useful than the online questionnaire in terms of assessing the validity of responses, probing the underlying reasons and gaining the correct interpretation. Subjectively, five in-depth interviews would yield better information than a hundred online responses.

Anomalies

The results from the online study in “Question 11” showed a sharp contrast between the respondents’ views of their financial literacy and how the experts perceived them and the findings of other studies on the topic. This could indicate that the population used did not truly represent the target audience e.g. Q7 shows that 42% of businesses were in existence for more than fifteen years and the education profile (Q10) reveals that 70% have attained Bachelor’s or Master’s degrees. It is not clear if the fact that nine out of ten respondents (Q9) were male had any influence in the self-regard.

Topics emerging from the study

Financial Literacy

- a) The ability to do financial projections and use financial models to design profitable and sustainable business models
- b) To understand clearly the differences between gross/net profit and cash/profit
- c) To be able to interpret financial statements and use them to assess company performance
- d) Forms of business organisation and setting up a company
- e) Legal Structure Options for Small Enterprise - Tax Implications
- f) Incentivising employees and using innovative ownership structure to reward and retain key staff
- g) Funding – sources, types, capital structures and gearing. This could include references to all the basic financial instruments listed in Q12 of the online survey
- h) Records and accounting systems
- i) Employee remuneration options, payroll and deductions
- j) Secretarial and Taxation
- k) Being able to converse with accountants, advisers and providers of funding in the language of finance (Terms and concepts). This is a high priority as “we don’t want to turn entrepreneurs into accountants but...” they must master the language to collaborate effectively with third parties in business
- l) Understanding the concept of risk/return and their responsibilities to investors when they are the “risk” someone else is taking
- m) Risk analysis

Digital Internationalisation Skills

- a) Project planning and management tools
- b) Using E-mail effectively
- c) Being “sales focused” when adopting social and other digital media strategies
- d) Skills that are useful in “getting your business out there”
- e) Time management training using business case-studies
- f) Online development services such as
 - a. Amazon Web Services (AWS) which provide localised tutors and support
 - b. Azure
 - c. HubSpot
 - d. Slack
 - e. TeamWork
 - f. Intercom
 - g. Shopify
- g) Advanced spreadsheet skills
- h) Creating updating content and monitoring website usage
- i) SEO
- j) Social media for business
- k) Digital strategy and marketing
- l) Selling online/e-commerce



- m) Managing relationships with customers online
- n) Big data
- o) Business Intelligence
- p) Data Protection
- q. Internet of Things (IoT)
- r. Cognitive Computing and Artificial Intelligence (AI)
- s. 3D printing
- t. Augmented Reality (AR) and Virtual Reality (VR)
- u. Robotics
- q) Blockchain

Classifying the Financial Literacy topics to set up WP3

The financial KSA for entrepreneurs and owner-managers falls neatly into time-based classifications - past and future focused.

Past largely requires secretarial and administrative skills knowledge and behaviours and are easily transferred using signposts and/or traditional classroom methods.

The future requires the ability to use dynamic models to connect business and financial models, explore What-ifs? and understand the links between the make up of business models and financial outcomes. They are highlighted in yellow on the list.

Past = information signposting

Future = modelling tool to explore scenarios and the knowledge to interpret information

Classifying the Digital Internationalisation skills to set up WP3

The relevance of some, perhaps many, of the topics are situation specific and better covered in specialised courses/modules. The partners with technical knowledge and skills could make a shortlist of the most important (and accessible?) topics for inclusion in the DIFME course and signpost the other as suggested for the financial topics.

Implications for Methodology emerging from the study

We should take the opportunity to design a programme based on principles and modern technology rather than tradition and constraints.

Some key principles for an ideal learner centred model:

The information and views set out in this publication are those of the authors and do not necessarily reflect the official opinion of the European Union. Neither the European Union institutions and bodies nor any person acting on their behalf may be held responsible for the use which may be made of the information contained therein.



- 1) Relevance: we must have the right content and ensure that this is seen to be valuable by learners
- 2) Convenience: learners have access how, when and where they want
- 3) Discretion: learners pick what they want when they want it
- 4) Stickiness: learn by doing to embed the knowledge and skills
- 5) Proximity to real work situation to shorten the transfer journey and avoid deflected effort
- 6) Ease of collaboration: online exchanges and align this with reality by using the same platform and tools for mentoring and communicating with funders and advisers.

This reinforces the idea of a HUB with very precise signposts to valuable information and engaging digital tools to make learning key concepts exciting.

What comes across loud and clear from the expert interviews is that we must get engagement.

One of the oldest ways to engage people is through storytelling – to wrap this learning within a story. In WP3 we need to find the story which will make people want to become financially literate and want to use digital tools to internationalise their business.

[Appendix - Feedback Interviews from Arista Networks](#)

On April 8th, 2019 I (Brian Byrne, Technology University Dublin) distributed paper copies of the DIFME survey at Arista Networks C/C++ meetup.

17 fully completed surveys were returned and 4 partially complete surveys. The latter 4 were not used for further analysis. These surveys were posted to our Cork partners and were transferred then to the DIFME Survey Monkey. Jack and Damian retain the original paper copies. In addition, I conducted a limited number of interviews where I asked respondents to set out other skills pertaining to Financial Literacy, Digitalization and Internationalization that would be relevant for micro-entrepreneurs

The following are a summary of skills identified by 4 different participants that volunteered to provide additional content through an interview style format. (3 of the respondents might be viewed as aspiring micro-entrepreneurs and 1 might be considered an expert by virtue of business responsibilities)

Expert feedback on necessary skills required to mount start-up

#1

Accounting Skills and Accounts Interpretation/Preparation

Tax Compliance skills



Legal Structure Options for Small Enterprise - Tax Implications

Ownership and stock issuance for SME

Ownership structures/strategies predating Venture Capital Phase

Digital Marketing and Branding

Micro-entrepreneurs' feedback desirable skills to assist start-up

#1

Project and Cost Planning

Risk Analysis

Employee Remuneration Options

Employee Incentive Packages

Social Media Strategy consistent with SME budgets

#2

Skills that are useful for "getting your business out there"

Digital Marketing and Social Media that efficiently target investors, customers and other relevant stakeholders

#3

Time Management training using Business Case Studies.

The Group interviewed were mainly composed of people operating in Dublin Silicon Docks. Most were employees in larger companies with global reach. Several respondents intimated that they would consider starting their own enterprise but felt they would require capital and business skills beyond their current "engineering" and IT backgrounds. Dublin is heavily reliant on outside actors to populate its Silicon Hub which now ranks alongside international peers such as San Francisco/Seattle and Tel Aviv in terms of employees, sales and turnover.

Key actors in the Tech sector have located in Dublin.



Co-funded by the
Erasmus+ Programme
of the European Union

Google	Logentries	Viddyad	Amazon
Facebook	Hedgeguard	Zalando	Linkedin
Accenture	Pinterest	Arista Networks	Dropbox
Airbnb	Saongroup	Twitter	SurveyMonkey
TripAdvisor	Sohalo	HubSpot	Groupon
Indeed	Tenable	Wolfgang Digital	Yelp
Squarespace	Dogpatch Labs	ZOO Digital	PayPal

Respondents to the interview noted that Dublin's hegemony in Europe was sustained by the presence of key incumbents. The startup ecosystem, in contrast, was less prominent in Dublin than other jurisdictions. Success to date has been linked to good luck: attracting companies like Microsoft, Google and Apple when they were at a relatively early stage of their development. The respondents felt to make the sector more robust to international shocks, micro-enterprise need to be encouraged. While rent, capital and availability of credit were also obstacles – they noted that business skills and knowhow would need to improve for tech workers to transition successfully to a start-up phase.

Respondents observed that the IDA (Industrial Development Authority), Ireland had a history of backing winners. Some of this can be put down to pure and simple good luck. Like Holland, post peak gas production or Finland when Nokia's dominance in mobile phones collapse - Ireland similarly faces a very real prospect of experiencing Dutch disease in post-tax harmonized market setting.

Successive Industrial Development strategies have relied on Low Tax Policies to lure in investment from foreign locations. This approach may not be sustainable long term. One major vulnerability resides in terms of an evolving tax structure where pressure for tax harmonization from EU partners is likely to continue.

Also, the fining regime from Brussels has become harsher. This may ultimately encourage leading companies to locate elsewhere. A new tax regime in the UK could also present real difficulties. Potential pitfalls identified by respondents include Brexit, European Fining regime, state supports in the form of Macron's Station F and Tax harmonization.



These could potentially conspire to undermine Dublin's status as a global hub. Importantly however, there is a significant pool of human capital now which can potentially provide some basis for inertia.

Respondents observed that an important tool for building resilience into the tech sector would involve equipping highly skilled engineers with business skills. In the event of market/tax/regulatory shocks, this nucleus/cluster of engineering skills could be endogenized if the start-up sector were more prominent and if business skills were easier to acquire.

From the survey and interviews it was noted that highly skilled IT micro-entrepreneurs are not necessarily strongly literate in Accounting/Finance. To safeguard Dublin's success - it was suggested that highly skilled engineers should have access to pedagogic platforms that enhance Financial Literacy, Digitalization and Internalization.

The single biggest skills gap for aspiring micro-entrepreneurs in tech would be most likely be linked to financial literacy. (Although, respondents to the survey also highlighted a need for digitalized marketing skills.) IT engineers and coders would appear, for the most part, to be already highly digitized and internationalized. Respondents to the interviews noted that eLearning platforms could prove useful to them for embarking on a start-up phase pre-venture capital.

They also noted that innovative ownership structures would be important for maintaining incentives to employees in a cash-strapped/low credit environment. Start-ups generally involve substantial risk taking and having strategies to share lotto style success was important for retaining skills and cohesion in small business units

A number of the respondents to the interviews mentioned that Dublin was now their home and roots were established through family even though they had mainly immigrated to Ireland. In the event of a shock, they would like to stay in Dublin but felt that it might not be straightforward to spawn micro-enterprise in Ireland in the absence of business knowhow: related to accounting/tax/ownership structures for small cash-stretched enterprises.