Research study on existent equal pay tools in Europe

and the development of technical specifications for the Equal Pay Tool

NCPE

PREPARE THE GROUND FOR
ECONOMIC INDEPENDENCE

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Contents

1. Introduction

The greatest challenge that one often finds when developing new practices and changing policy is trying to establish the proper parameters around the issue. This is almost inevitable when dealing with social issues and which may be subject to major interpretations in different institutions, cultural contexts and social environments. More so, some of these issues may be difficult to trace given their subtle manifestations within institutions. Developing adequate instruments that are both reliable (that is, consistent in the way they assess the extent of specific social realities) and valid (that is, properly measure what they claim to measure) inevitably requires collecting information from varied stakeholders. It also means adopting measures to fit one's realities, be them social or economic. Therefore, it stands to reason that comparisons may often be difficult to make, if not also dangerous, implying that a very critical approach towards the information needs to be adopted.

The notion of unequal pay for same work or for work of equal value is one issuewhich needs to be addressed with caution because of its possible political sensitivity and social implications to business, institutions and the stakeholders involved. It deserves attention to the way we construe the notion of 'equal pay for work of equal value' and also deserves attention to the way we take stock of the current situation. It also requires focus on the use of any tool that is developed including its purpose and intention.

This Report provides the framework for constructing a tool that assesses the degree of unequal pay between women and men within the same organisation. It starts first by providing a thorough definition of the notion of gender pay gap (GPG) and outlines the reasons for its occurrence, which range from the fact that often men tend to occupy more senior positions in the organisation's hierarchy, to the fact that women tend to be the ones who sacrifice their career or take career breaks in order to raise and care for their children.

The document then proceeds to provide more emphasis on two seemingly similar but quite different concepts: Equal Pay for Equal Work versus Equal Pay for Work of Equal Value. The notion of 'work' and 'value' is brought to the fore because of its implications on how best to assess value given that while women and men may seem to be doing different work, the value they bring to the institution may be similar. The notion of value is far more difficult to appraise than that of work, given its possible level of subjectivity and interpretation beyond assessing work which may be defined by specific sets of skills and qualifications.

The emphasis of this document is to provide suggestions and move forward the idea of creating a measure that evaluates value, which may be after all the subtle variable that may be responsible for unequal pay. The document contextualises this importance and need by emphasising that as Malta's stand on

such discrimination is above the EU average, 45.6% compared to 39.6%, and locally the rate of inequity has almost doubled over a 7-year period, there is a strong justification for developing a tool to curtail the phenomenon in Malta and stem this apparent social injustice.

The approach taken in this Report is to look critically at some equal pay tools that have been successful, at least in their particular socio-economic contexts, evaluate them in light of the literature and use the best practices identified in order to design a tool for local purposes. The Report provides critical highlights on similar tools in Switzerland, Germany, Austria and the United Kingdom and presents a holistic but succinct evaluation of their mechanics. The proposal for a local tool is therefore highly evidence-driven but assumes a degree of flexibility given the local scenario and the initial purpose for the tool while also providing an appreciation for assessing 'equal value' over and above 'equal work.'

On the basis of these fine distinctions and evaluations of lessons learnt from other countries with developed equal pay tools, the Report finally provides a set of important parameters to qualify the blueprint for the local equal pay tool. These variable specifications are meant to achieve the results defined by the tool and also provide an objective measure upon which the Equality Mark Certificate may be awarded.

2. Literature Review

2.1 Introduction to literature review

Discrimination at the workplace can take many forms – Chapter 456 of the Laws of Malta (Equality for Men and Women Act[1]) defines discrimination as "discrimination based on sex or because of family responsibilities, sexual orientation, age, religion or belief, racial or ethnic origin, or gender identity, gender expression or sex characteristics and includes the treatment of a person in a less favourable manner than another person is, has been or would be treated on these grounds."

By definition, discrimination, whether intentional or unintentional, results in disparate treatment between groups, and is usually manifested, though not always, as pay differentials based purely on such characteristics.

Even though all of the factors of discrimination, as identified in the legal definition, can lead to unequal pay for work of equal value for women and men, this study focuses on discrimination directly related to gender, how this can result in unequal pay between women and men, and more importantly, how one can measure such pay disparity at firm level.

The issue at hand is steeped in layers of complexity, primarily associated with unravelling the factors which consequently lead to unequal pay between genders. In other words, gender discrimination is one of the factors which may influence unequal pay and disentangling that specific factor from all other factors can prove challenging.

The rest of this chapter is organized as follows: Section 2.2 will provide a clear definition of concepts related to unequal pay between genders, and how such concepts are interrelated. Section 2.3 will then provide the legal context and establish the principle of Equal Pay for Work of Equal Value. Following that, the next section will outline the status quo on the severity of unequal pay across Europe. Section 2.5 then discusses issues related to unequal pay measurement in the relevant literature, before concluding with a critical analysis of the various existing Equal Pay Tools being employed in the EU.

2.2 Defining gender unequal pay

Starting from the broadest definition of unequal pay between genders, the overall gender earnings gap is defined as the difference in the average annual earnings between women and men. Standing at 45.6% for Malta and 39.6% for the EU, it also considers factors such as lower employment rates and lower working hours for females[2].

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1   CAP. 456. 9th December, 2003

2   European Commission, November 2018, 'The gender pay gap in the European Union'; European Commission, November 2017, 'The gender pay gap in Malta'.

The unadjusted gender pay gap (GPG) focuses on hourly earnings. It is defined as "the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees"[3]. This is the most commonly used statistic because it is conceptually intuitive, it is observable, and data can be collected and analysed without much difficulty[4].

For instance, Eurostat reports that, "for the economy as a whole, in 2017, women's gross hourly earnings were on average 16.0 % below those of men in the European Union (EU-28) and 16.1% in the euro area (EA-19)". The gender pay gap can arise due to a number of factors:

• Management and supervisory positions: Such positions are mainly held by men since women suffer from the care penalty resulting from taking charge of important unpaid tasks (see below). This keeps women from reaching higher positions within an organisation.

• Important unpaid tasks: Schieder and Gould (2016) posit that since the bulk of housework and child rearing tends to fall to women due to gender stereotyping, women would generally opt out of jobs demanding long hours (which usually pay more). Furthermore, due to the status quo of the gender disparity in earnings, for many families it is more economically viable for women to reduce their working hours to take on domestic tasks, rather than men, and this further exacerbates the gender pay gap. Women spend on average 36 hours per week caring for children and for adults and doing housework, as opposed to 21 hours for men[5].

• Periods off the labour market: Women also generally take longer career breaks, and this is another factor that stunts their career progression. This is consistent with the literature on the 'motherhood penalty' where women with children tend to suffer from a 'per-child' wage penalty as opposed to women without children[6].

• Segregation in education and the labour market: This refers to the fact that in some sectors and occupations, such as the health sector or teaching occupations which offer lower wages, women tend to be overrepresented, whilst in others which tend to pay more, men are overrepresented. Segregation in sectors contributes to a widening of the gender pay gap (Boll et al.,2016) and the level of segregation has barely changed over the years[7] .

• Pay discrimination is illegal. However, this continues to exist and is another reason contributing to the gender pay gap.

2.3 Establishing the legal context and the concept of Equal Pay for Work of Equal Value

In order to eliminate gender pay discrimination, one must embrace the principle of equal remuneration for work of equal value, as set out in the Preamble to the International Labour Organisation (ILO) Constitution. Here, two important concepts emerge – that of Equal Pay for Equal Work (EPEW) and Equal Pay for Work of Equal Value (EPEV)[8].

Whilst the two concepts are related, EPEW limits the application of the equal pay principle to work undertaken by two individuals in the same area of activity and in the same enterprise. On the other hand, the concept of EPEV is broader and captures cases where different occupations produce comparable "value", which is usually determined, though not without its challenges, through a job evaluation method (see for instance Chapter 5

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3 https://ec.europa.eu/eurostat/statistics-explained/index.php/Gender_pay_gap_statistics

4 This definition is labelled "unadjusted" since it captures other factors apart from gender discrimination which can lead to a gender pay gap.

5 6th European Working Conditions Survey, Eurofound, 2015

6 See for instance the growing body of literature about the 'Motherhood penalty' (Aguero, Marks, & Raykar, Dec 2017)

7 see the Index of occupational and sector segregation published by the European Commission

8 Defined as 'Equal pay for work to which equal value is attributed, without discrimination on grounds of sex or marital status, with regard to all aspects of pay and conditions of remuneration'. EIGE- https://eige.europa.eu/thesaurus/terms

'Comparing jobs and determining equal value' in Oelz et al., 2013) .

By way of example, the EPEV can be used to compare caterers and cleaners (mostly women) with gardeners and drivers (mostly men); social affairs managers (mostly women) with engineers (mostly men); and flight attendants (mostly women) with pilots and mechanics (mostly men).

In terms of the legal context, the principle of "equal pay for equal work" has long been enshrined in the documents that make up the European Union, as a fundamental principle that Member States are expected to adhere to. In fact, The Treaty on the Functioning of the European Union (TFEU), formerly known as the Treaty establishing the European Community (TEC), which is considered to be a founding document of the European Union, states the following in Article 157 (formerly Article 141 of TEC):

"Each Member State shall ensure that the principle of equal pay for male and female workers for equal work or work of equal value is applied."
(PART III – Union Policies and Internal Actions, TITLE X – Social Policy, Article 157)

As explained in the Treaty, equal pay that is not discriminatory on the basis of sex means:
 "(a) that pay for the same work at piece rates shall be calculated on the basis of the same unit of measurement; (b) that pay for work at time rates shall be the same for the same job."

The explicit mention of this principle in the treaties is a concrete indication that Member States are not only encouraged but presumed to be actively working to achieving this objective as members and signatories. Article 157 stresses also that EU legislative institutions "shall adopt measures to ensure the application of the principle of equal opportunities and equal treatment of men and women" in all employment related matters, including the pay equality principle. Likewise, Member States are also encouraged to consider adopting policies that give "specific advantages in order to make it easier for the underrepresented sex to pursue a vocational activity or to prevent or

compensate for disadvantages in professional careers." The implication in this part of Article 157 is that the State has a vital role to play in the labour market to ensure that gender discrimination in employment is eliminated.

Directive 2006/54/EC of the European Parliament and of the Council also makes reference to the equal pay for equal work principle, stating in Article 4:

"Article 141(3) of the Treaty now provides a specific legal basis for the adoption of Community measures to ensure the application of the principle of equal opportunities and equal treatment in matters of employment and occupation, including the principle of equal pay for equal work or work of equal value."
(Directive 2006/54/EC of the European Parliament and of the Council of 5 July 2006, Article 4)

In this Directive, effectively European-wide legislation, the EU is highlighting the presence of a legal basis upon which member states may advance measures that lead to the attainment of pay equality for the same value of work between male and female employees.

The Constitution of Malta also outlines this principle as Article 14 under the Declaration of Principles section. The document specifies that "the State shall in particular aim at ensuring that women workers enjoy equal rights and the same wages for the same work as men." Chapter 456 of the Laws of Malta- the Equality for Men and Women Act delves into more detail as to what constitutes gender discrimination. The scope of this Act includes direct and indirect discrimination at the workplace, and encompasses both the pre-employment phase (recruitment and selection process) and terms during employment (including salary, conditions, allocated tasks, and offered opportunities for training and promotions), and dismissal phase (see in particular Articles 4, 8 and 10 of Cap. 456). Furthermore, Article 27 of Chapter 452 of the Employment and Industrial Relations Act states that "employees in the same class of employment are entitled to the same rate of remuneration for work of equal value" This wording is based on internationally accepted standards and definitions. According

to the International Labour Organisation (ILO), remuneration refers to the basic pay, non-salary payment, bonuses, as well as allowances.

Chapter 456 provided for the establishment of The National Commission for the Promotion of Equality (NCPE) which is tasked with several functions outlined in Article 12 of the same Act with the aim of eliminating discrimination between women and men in Malta. The NCPE's functions include advising on all policies related to gender equality and updating accordingly, monitoring the implementation of such national policies including coordinating with official State bodies and Government departments, keeping in contact with local and foreign bodies on issues of equality, carrying out investigations (when receiving complaints or otherwise) when necessary to ensure legal compliance, and providing assistance, advice and proposals when necessary on equality issues that may arise. The NCPE launched the Equality Mark Certification as an initiative through which the Commission assesses companies on the policies and practices which they adopt in relation to gender equality including equal pay The NCPE's information document (available on the NCPE website) states that "the NCPE awards this Equality Mark certificate to those organisations that demonstrate a commitment towards best practices in the area of gender equality. The Equality Mark is a certification awarded to companies / organisations that make gender equality one of their values, and whose management is based on the recognition and promotion of the potential of all employees irrespective of their gender and caring responsibilities" (NCPE)[9].

2.4 The extent of the issue

The principle of equal pay has been acknowledged at policy and academic level for decades, with the 70s and 80s mainly focusing on the human capital theory, whereby individual characteristics such as education and experience were seen as the main drivers

of pay differentials (Azzopardi, 2017). Despite equal pay legislation being in force in the European Union (EU) for more than five decades, equal pay for equal work or work of equal value is still an issue to date.

In the EU, in 2017 the average gender pay gap among Member States stood at 16% (Eurostat, 2017) This means that women in the EU earn about 84-euro cents for every 1 euro men earn. These statistics also show that the gender pay gap varies quite significantly from Member State to another, with figures ranging from 3.5% in Romania to 25.6% in Estonia.[10] In Malta, the gender pay gap in 2017 stood at 12.2% (Eurostat, 2017).

Overall, Eurostat reports that the Czech Republic, Estonia and Germany experience the widest gender pay gaps across the EU. In comparison to this, Italy, Luxembourg and Romania are identified as having the smallest gender pay gaps[11].

According to data from Eurostat, the gender pay gap in Malta has been steadily rising in recent years. The gender pay gap in Malta stands at 12.2% (Eurostat, 2017) which is almost double what it was at in 2010, which was 7.2%.

Whilst the European Commission outlines only general underlying reasons of the gender pay gap (The Gender Pay Gap in Malta, European Commission factsheet, November 2017), a paper by Azzopardi (2017) goes into more local detail. Factors contributing to the rising gender pay gap in Malta include the increase in female participation rate during the past decade[12], particularly since women enter the labour market at the lower end of the ladder, the stereotypical gender roles portraying the woman as the main carer of the household, and occupational segregation, with women

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9 The Equality Mark Certification – Information Document https://ncpe.gov.mt/en/Documents/The_Equality_ Mark/Equality_Mark_Information_Document_2019.pdf

10 Eurostat, factsheet, European Commission - https:// ec.europa.eu/info/sites/info/files/factsheet-gender_ pay_gap-2019.pdf

11 Eurostat, factsheet, European Commission - https:// ec.europa.eu/info/sites/info/files/factsheet-gender_ pay_gap-2019.pdf

12 Female participation rate in Malta stands at 64.1% as at 2018 compared to 39.4% a decade earlier (Eurostat Database)

occupying roles mainly in the education, wholesale/retail and accommodation/food sectors. Other important features listed by Azzopardi which contribute to the rising gender pay gap in Malta include the increased role women play in unpaid care (care for the elderly and childcare) and in voluntary work.

Policy considerations

On the policy front, the Maltese Government is committed to address the issue of the gender pay gap. There has been a commitment to set up the appropriate structures within the Department for Industrial and Employment Relations to compile necessary information and in order to investigate complaints of unequal pay. Furthermore, consultations with Iceland and Australia have been carried out with the aim of finding a model which suits Malta's needs.[13].

Specifically referring to the model adopted by Iceland, Olaffson (2017) reports that the action plan of this model necessitates companies to obtain a 'Pay Equality Certification.' Certifiers of this would also be required to provide information about those companies which do not obtain this certification. Olaffson (2017) discusses that this model would serve as a significant step towards moving forward in rooting out the unexplained gender pay gap, and ultimately identifying room for improvement in order to reduce or potentially eliminate the gender pay gap.

In justification of this initiative of the obligatory Pay Equality Certification, along with other measures (such as the introduction of paternal leave) Iceland is in fact the country which is closest to gender equality within its overall economy (Global Gender Gap Report, World Economic Forum (2018)). Thus, this may be considered as a possible approach to continue to promote in Malta.

13 Press Release: Reference Number: PR181206, Press Release Issue Date: May 29, 2018

2.5 Equal Pay for Work of Equal Value measurement

'Take home pay' is a function of many variables – some are observable and measurable (like educational level, years of experience, tenure), others are observable but difficult to measure (like skill level, productivity, responsibility, risk, leadership qualities), and others are unobservable (such as discrimination based on gender or other grounds).

Smith and McElhaney (2017) discuss the concept of equal pay from an array of perspectives. These include organisational pay gap, by-level pay gap and like-for-like analysis. The organisational pay gap is the comparison between the salaries allocated to women and men within the same organisation. Computing pay discrepancies in this manner will only yield the organizational gender pay gap, which does not provide sufficient information regarding pay discrimination. The by-level pay gap analysis and the like-for-like analysis evaluate the average gender pay of every level or similar job within the organisational hierarchy. Here, one is eliminating pay differences due to a number of observable characteristics (since it would be assumed that similar jobs and levels yield similar value and therefore should attract similar pay). However, even within the same job and the same level, factors other than pay discrimination could be driving the pay gap between genders (such as the observable but difficult to measure qualities outlined before).

Both the explained and unexplained gaps can include or reflect an element of discrimination – that the explained gap is likely to have structural roots (genders having different access to education or training opportunities), whilst the unexplained gap is likely to be purely discriminatory (whether intentional or unintentional) or involve non-measurable factors (like different bargaining skills, as already mentioned).

Since a gender pay gap is not, in and of itself, evidence of discrimination due to the various causes described earlier, many studies seek to focus on identifying the extent to which pay differences are explained by observable

characteristics, with the unexplained portion being attributed to discrimination (Boll & Lagemann, 2018).

The means mostly adopted for measuring such data are decomposition approaches which have more or less become the most popular methods after the seminal contribution of Oaxaca and Blinder (Oaxaca, 1973, and Blinder, 1973). This statistical method involves the splitting of the observed pay gaps to develop an economic interpretation. Apart from the classic Oaxaca-Blinder approach, several researchers have made use of variants which take into account different quantiles of wage distribution (Albrecht et al., 2003).

Another method to study evidence of discrimination focuses on assessing homogeneous groups with similar roles and qualifications in order to determine whether a gender pay differential exists. However, in such cases, other factors which could be non-discriminatory, such as responsibility or skill level, could be driving the wage gap (Blau & Kahn, 2016).

2.6 A critical analysis of Equal Pay Tools

In order to enforce the *equal work, equal pay principle*, as determined by Maltese and European law, it is imperative that organisations are equipped with the necessary tools to identify irregularities and take action to remedy the situation in such a way that it removes biases in salaries based on gender. This issue is particularly stressed in the European Commission's *Recommendation C (2014) 1405 final* where Members States are encouraged to "raise awareness among public and private undertakings and organisations... to devise tools to help analyse and assess pay inequalities." These tools also serve the purpose of increasing transparency between the employer and employee in that it allows the latter to acquire the necessary information to be better able to combat pay discrimination.

A number of countries have developed structured tools with the ultimate intention of identifying whether the organisation using the tool is adhering to the *equal work, equal pay* principle. Switzerland, Germany

and Austria all have standard quantitative tools at their disposal while the UK requires that organisations provide specific salary information which they may obtain using commercial tools available on the market.

In the sections below, this report describes and analyses the main equal pay tools being used across the EU.

Switzerland – Logib

Logib is a self-test tool developed by the Swiss Federal Government intended for companies verifying gender pay equality within the organisation. The Federal Department of Home Affairs (FDHA) explains that the tool uses a statistical approach whereby salaries are regressed against a set of explanatory variables, including "human capital" which includes *training, potential years of employment* and *length of service* as well as other factors like *skill level* and *professional position*. Another independent variable, *gender*, is added to the regression in order to determine whether a person's gender has a statistically significant influence on the salary being attained. This test is run using *Microsoft Excel* and the ready-made tool can be freely downloaded from the public domain. A user-friendly manual is also available to help the company prepare and operate the tool.

To run the regression, Logib requires a set of input data for the test to process. Data for all employees must be entered into the system – this also includes partners, board directors and other executives, *provided they have a contract of employment* with the organisation. It should also be noted that this test is appropriate for organisations of at least 50 people or more, with employees from each gender comprising more than 10. Additionally, all required data must be available for all employees.

Below is the data that must be entered into the spreadsheet which will then be used for the regression test. The FDHA does not specify how this data is to be collected, and thus assumes that the company is in possession of this information, collected through any appropriate means, which it will accurately insert into this system. Most of it is collected by the national statistics office every two years.

Personal Data	• Unique ID number • Year of Birth • Gender • Years of Service • Training (academic qualification)
Workplace Data	• Function (job title) • Skill Level (level of complexity or specialisation of job at hand) • Professional Position (management level)
Data on working hours	• Activity rate (for employees paid monthly) • Hours paid in reference month (for employees paid hourly)
Data on wages	• Basic Wage (includes fringe benefits) • Statutory Allowances for night work, Sunday work and other extra pay for difficult working conditions (Ex: shift work /on-call service /hard-ship allowance) * • 13th Monthly Wage • Special Payments (Ex: bonuses, gratuities, profit-sharing) * *Other allowances and overtime remuneration not included
Entry of different usual working hours	• Usual weekly working hours (for employees paid monthly) • Usual annual working hours (for employees paid hourly)
Statistical population	• Total employees (only normal employment contracts will be considered for the regression)
Remarks	• Any remarks for special cases

Table 1: Logib data entry points

The manual provides a detailed explanation on how each data input is inserted into the system, including qualitative factors like *Skill level* and *Training* – where employees would be assigned a value from an internally developed scale that measures their level of skill or training. The user, in this case the organisation, must compile this data and follow the instructions as provided in order to successfully log this data onto Logib. Once this is complete, the tool will produce the statistical results with a basic interpretation of such results for the benefit of the user. Among other insights that these results produce, they should be able to answer the following critical points:

• How much less (or more) women earn, than men, when differences in personal and workplace characteristics are taken into consideration. The result is displayed in percentage form.

• Whether wage equality is respected within certain parameters/range (i.e. displaying a conclusion based on a strict threshold rule).

• How well the factors included in the model explain wage differences in the company (Goodness-of-fit of the model i.e. the R-Squared statistic).

Logib also generates further evaluations which may be of interest to the user, such as wage differences between women and men per age group or training category, in order to assess whether differences are exacerbated or otherwise when also considering other employee characteristics. The tool also produces estimated earnings of each employee when their gender is not considered in the regression model.

Germany – Logib-D

Logib-D is the German adaptation of the original Swiss model, made available free-of-charge by the German Federal Ministry of Family Affairs, Senior Citizens, Woman and Youth. Just like its Swiss counterpart, this equal pay tool also uses regression analysis to identify the extent to which salaries paid out by an organisation are influenced by the gender of the employee. This means that the tool considers several pay-related factors like *education, work experience* and *job complexity* and then calculates the gender pay gap coefficient after adjusting for these characteristics. When Logib-D was initially presented back in 2009, the government also offered professional consultation packages (available up until 2012) to a number of entitled companies who wished to apply for more advanced analysis and guidance on issues related to pay structure and pay equality for their organisation. Additionally, companies who apply the tool and prove their pay equality credentials are awarded certification and may display the label *"Logib-D approved"*.

Just like the Swiss version, the organisation must collect and upload a list of personal and job-related information for all employees onto to the system (which is available online and for download). The Cologne Institute for Economic Research,as the coordinator of the tool's development, lists the following information which is required by the system:

• Salary information

• Gender

• Age

• Educational attainment

• Entry date (including possible employment breaks)

• Job complexity

• Management level

The information required is largely similar to that of the Swiss model given that the process of identifying the gender pay gap is more or less the same, albeit with some minor technical adjustments. The result provided by the tool will give the unadjusted GPG (gender

Source: www.logib-d.de, webtool - outcome report 1 based on test data, original output in german
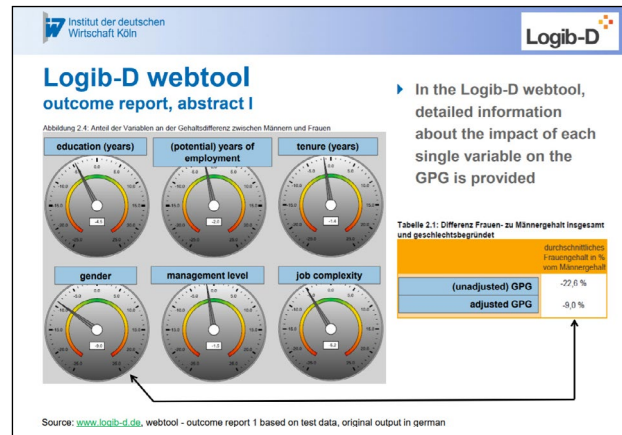
pay gap) and the adjusted GPG, with the latter effectively showing the difference in salary between males and females in cases where all other work and education related factors are the same i.e. where wage differences are attributed purely to gender discrimination. The equal pay tool also releases information on how other factors, such as *education*, impact the gender pay gap.

The below image shows a typical example of an output report from the Logib-D equal pay tool, showing the extent to which each variable is able to explain pay differences between male and female employees. In the case of education, males appear to be paid 4.5% more because of this factor, suggesting that males in the organisation have received more educational training. However, if one were to look at the gender factors, males appear to be paid 9% more simply because of their gender – this figure is referred to as the adjusted gender pay gap.

The statistical requirements to operate this tool are also similar to the Swiss tool in that a certain level of observations (employees) is required in order for it to work properly, rendering it useless when operated by small firms. It is also worth noting that this comprehensive tool was supported by employers' associations and trade unions alike in Germany.

Germany – Eg-Check.de

The eg-check.de is a German toolkit designed to give visibility on potential gender inequalities

based on pay within an organisation. This equal pay tool forms part of the project "Same wages – eg-check.de" with the tool itself developed in 2010 and updated twice since, in 2014 and 2019. Eg-check-de is currently free to download from the government's Federal Anti-Discrimination Agency, which makes this tool freely available to all organisations. The overall objective of the tool is to show the definitive causes for any pay disparities that may arise and calculates the extent of this financial difference.

The Federal Anti-Discrimination Agency specifies that this tool can serve several functions, including ensuring that private and public entities are in line with national and EU legal requirements when it comes to paying their employees. The toolkit can also be useful in supporting employees who feel discriminated against – and hence serves as a reliable work-aid for trade unions, lawyers working in labour tribunals, and other interested parties.

The toolkit is composed of three different instruments for examining compensations, all of which can then help determine the presence of gender pay discrimination. The instruments are:

1. Regulation Checks

2. Pay Comparison

3. Statistical Comparison

The toolkit is not necessarily designed to have all three instruments used at the same time or in succession. The point of the toolkit is to use the instrument that makes most sense within the scenario the user is facing, or rather what the user is attempting to determine. Therefore, the toolkit advises users to first identify what they wish to explore in terms of gender pay inequality using the following matrix in order to determine which is the appropriate instrument to apply. The appropriate tool becomes clear once this process is completed.

| Income components | Income regulations | Individual cases | All employees | Practice of charging | | |
| | | | | Category | | |
				Activities	Areas	Income groups
Basic pay (minimum requirements)						
Gradual increase						
Performance remuneration						
Overtime surcharges						
Hardship allowance						

Table 2: Eg-Check.de tool kit

The first column represents the different components that make up an individual's remuneration, which are:

- Basic Pay
- Salary increases
- Bonuses
- Overtime
- Hardship allowance

The toolkit emphasises the fact that discrimination may be found in some components and not others and that it is therefore important to test for all elements of income earned by employees.

Ticking the green boxes signals the user to apply the Regulation Checks instrument. This essentially involves verifying that the organisation's remuneration systems and collective agreements are in line with relevant national and EU regulations which demand that women and men are being fairly compensated for the work they do, fully and equally. For example, questions may arise on whether internal job classification systems are accounting for all strains associated with the occupation, particularly for female-dominated roles – this can be checked against European Court of Justice rulings. If there is a lack of consideration for work-related strains that tend to be associated with female-dominated occupations, then this may be a case of gender discrimination.

Ticking the blue boxes advises the user to apply the Pair Comparison instrument. This tool utilises a job evaluation system that is comprised of 4 criteria:

- Knowledge
- Psycho-social demands
- Responsibilities
- Physical demands

The occupations being compared are assigned a value from 1 to 10 for each of the criteria. Adding the four criterion values for each employee can identify whether certain roles are being under or over-compensated. For example, if two roles have the same paygrade

but differ in total value calculated, then clearly the employing entity is not compensating employees fairly for the value of work they produce. This tool is thus testing an entity's adherence to the principle of equal pay for equal value. Evidence of gender discrimination may then become apparent if the user of the tool notices that female-dominated roles tend to be undercompensated when compared to male-dominated roles.

The Statistical Comparison tool is used whenever yellow boxes are ticked. This instrument is ideal to test for gender discrimination, whether among all employees or certain categories of employees. First, the tool requires that for each occupation being considered, the user inputs the number of males and females occupying this type of occupation, from which a percentage showing the share of females occupying this role is calculated. The pay grade for each occupation is also inputted into the tool. If the user sees that jobs with a high percentage of females tend to appear under-compensated when compared to male-dominated jobs that seem to produce less value, it may be suggested that there is serial gender discrimination in the salary system being used. This may be the case in pay scales where it was the norm to over-compensate male-dominated jobs and under-compensate female-dominated jobs irrespective of the value of the respective occupations. Hence, like the previous instrument, this tool also gives visibility on the state of equal of pay for equal value but takes a more statistically based approach.

Companies and institutions can receive a certificate from the Federal Anti-Discrimination Agency for testing with eg-check.de. The certificate confirms that an intensive examination of the company remuneration structures was conducted, and that any potential insufficiencies were identified and addressed through measures for improvement. The regulatory body also provides financial support for the implementation of the tool, but the test must span at least 3 days of workshops followed by a results report in order to be eligible for the certificate.

Austria – Company income reports

The Equal Treatment Act in Austria requires that businesses of 150 people or more need to publish a company income report to work councils and employees, including information on their salary structures and wage differences. The reason for this is to increase transparency about differences in their employees' incomes and to aid such entities in moving closer towards gender pay equality.

The Federal Ministry for Health and Women's guide to preparing the company income reports state that "*The income report deals with the question of equal pay for equal or equivalent work. In addition, however, it is about equality in the operation as a whole. This concerns many aspects: activity, leadership positions, career breaks, etc.*" which implies that practice in Austria aims to address both the principle of *equal work, equal pay* as well as the general gender pay gap. The report therefore asks for two key metrics from the reporting company:

- Wage gap between women and men of entire payroll

- The arithmetic mean or the median for all male and female employees

In calculating these, the Ministry asks that the total remuneration be specified, including all of the following: basic pay, bonuses, overtime, and fringe benefits. Additionally, all figures are pro-rated into full-time equivalent in order to eliminate wage differences based on number of hours worked.

In publishing the salary information, the reporting company is required to explain the reasons for the existence in wage differences, including any differences between employees doing the same work. The guidelines outline possible points which can help companies examine the possible presence of discrimination:

- Being over-paid only on the basis of individual negotiation skills may constitute discrimination based on sex

- The potential expectation of future benefits can constitute discrimination based on sex.

- Criteria such as flexibility and market value must be transparent and traceable by activity so that they do not contain hidden discrimination

- Gender stereotypes

- Part-time workers must be paid the same hourly wages as full-time workers

Austria – Salary Calculator

An initiative brought forward by the Austrian Minister for Women is what is known as the *Salary Calculator*. Though not forming part of the company income reports system, it can help employers to build these reports by calculating the appropriate salary for their employees based on work and skill related factors. It also allows employees to check the average pay they should expect from the relevant job they are working in or they are seeking.

The calculator produces the average gross monthly earnings of different industries using data obtained from the Austrian micro-census, the payroll tax and social security agencies. Using this dataset, a regression model was formulated using the following explanatory variables:

- Age

- Working time

- Occupational status

- Industry (ONACE 2008)

- Length of service

- Geographical location of the company

- Size of company

- Education

- Type of activity

Unlike the Swiss and German models, gender is not included in the regression as an explanatory variable. Instead the calculator will produce the average income disadvantage that women experience compared to men in percentage terms, with the regression being generated separately for both women and men. The reason for this is to calculate salary independently of gender, thus preventing

women from going into wage negotiations having calculated a lower wage. In conclusion, the two key results of the calculator users should expect are:

- Average gross monthly earnings

- Average income disadvantage of women compared to men

United Kingdom – Gender Pay Gap Regulations 2017

The United Kingdom has recently passed new regulations concerning the gender pay gap which requires organisations employing 250 people or more to publish specific data on this gap. While the government does not offer a tool to calculate and assess the extent of such a pay gap, if any, within an organisation, it does demand that employers extract key figures which they can do using commercially available software. This must then be published on the organisation's website as well as on the appropriate government website. Given that the calculation and publication is required by law, non-compliance with authorities on the matter may lead to the organisation being fined after warnings have been made.

The information legally required from large organisations as stated by the Equal Pay Portal (an independent organisation publishing guidelines on these matters) are as follows:

- Mean gender pay gap

- Median gender pay gap

- Mean bonus gender pay gap

- Median bonus gender pay gap

- Proportion of male and female employees receiving bonus payments

- Proportion of male and female employees in the lower, lower middle, upper middle and upper quartile pay band (i.e. the proportion of women and men in each of four pay quartiles)

Instructions on how each of these metrics should be calculated are available with the relevant regulations. A key observation from this list is that they exclusively address the "Gender Pay Gap" between male employees and female employees, as opposed to "Pay Equality" which refers to the concept of *equal work, equal pay*. This is in contrast to the Swiss and German equal pay tools which seek to consider multiple factors like job level and training and adjust the gap accordingly. So, for example, in the case that the company's senior employees are mostly men, the gender pay gap is likely to be heavily skewed in favour of males. Note that only people who have a contract of employment with the organisation are to be included in the calculations of the gender pay gap.

The metrics being proposed do not necessarily require specialised software or advanced levels of statistical skills to compute, however there are commercially available options on the market which may aid users to collect the required information. One such equal pay tool available on the market is the Gapsquare's *FairPay*® which is offered in different software packages, a select number of which are compliant with UK regulations. To calculate the metrics, the user will simply need to upload the information (essentially Gender, Pay and Bonus information) in CSV or XLSX format and the tool will perform the necessary calculations produce the results. Apart from the mandatory calculations, Gapsquare also offers consultancy, recommendations, and other expert analysis, depending on the package chosen.

Evaluation

One observation that can be made about the aforementioned equal pay tools is the difference in approaches used. This is linked to the objectives that the designer of the tools has in mind. In the case of Logib and Logib-D, the regression analysis aims to quantify the exact effect that gender bias has on salaries paid out by the organisation – holding all other factors equal. Therefore, the tool is exploring the company's adherence to the Pay Equality principle. The Austrian system, where the company must draw up income reports, only addresses the gaps in wages between males and females irrespective of seniority, job effort and training. While there is certainly a case to be made for organisations to be gender balanced, the reports do not necessarily measure the illegal biases at the individual level. The salary calculator however, which is an Austrian state-provided tool, does help to

provide an estimation of the appropriate wages that should be given to employees working in different industries whilst highlighting the gender unequal pay disadvantage that employers are expected to avoid. Finally, the UK is similar to the Austrian company reports in that the recently adopted legal regulations' requirements seek to investigate the overall gender pay gap within the organisation.

The information required for the above tools to operate depend on the approach being applied. The Swiss/German tools, Logib and Logib-D respectively, demand a relatively long and wide-ranging array of data, which can be time-consuming to collect and organise in a way that can be inputted into the system. As for the Austrian income reports and the UK system, the information required is comparatively minimal and easy to process – however the user will have to appreciate that the eventual results from these tools is less far-reaching.

When considering use of these tools in a Maltese context, the data required may not always be readily organised or available for use – especially for small businesses. The effort to collect this data, particularly for Logib, may seem daunting and such businesses may not be well equipped with the right human resources to complete this task or even operate the tool. Small companies with limited resources may therefore find the less complex tools to be more appropriate. Additionally, the tools using regression analysis must have a minimum number of employees (at least 50) to function properly, excluding many small businesses in Malta which do not employ more than 50 people. For these cases, the non-regression tools would allow a greater proportion of local businesses to be captured.

The German eg-check.de, unlike some of the other previously mentioned equal pay tools, does not utilise econometric models to extract the gender discrimination gap. This means that the eg-check.de can be operated by entities that have a small number of employees – hence providing the majority of enterprises with the possibility of using an equal pay tool and ensure legal compliance. Similar to other tools however, this toolkit applies its own version of a job grading methodology, capturing the

principle of equal pay for equal value. Eg-check.de also includes a further perspective in the Regulations check Instrument whereby importance is given to legal documentation that is relevant to gender pay discriminations matters.

2.7 Conclusion to Literature Review
In order to reiterate the thoughts and literature mentioned above, tackling the issue of unequal pay within the workforce continues to be a challenge. To continue reducing the disparity in the overall wages among male and female workers, one requires, most of all, awareness of the issue of unequal pay and its possible underlying reasons and manifestations. In this way, a more effective and evidence-based approach is most likely to be reached using a mix of policy initiatives.

In this respect, the Government of Malta is committed to ensure that the concept of 'equal pay for equal work' is safeguarded, and that pay discrimination is eradicated. Noting that the increase in the female participation rate leads to more female empowerment and greater economic independence, it is also one of the factors which has led to a widening of the gender pay gap in Malta due to the tendency for women to be employed in lower-paid sectors and/or roles within the labour market. That is why family-friendly measures like free childcare services, breakfast clubs and after-school services continue to be important policies to address one of the root causes of the gender pay gap.

Further to this, the NCPE launched a set of initiatives as part of the Prepare the Ground for Economic Independence (PGEI) Project[14] - designed to address the gender gaps that hinder women's independence – through various activities, one of them being the enhancement of the Equality Mark[15], the development of an

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14 The project, Prepare the Ground for Economic Independence, is co-financed by the Rights, Equality and Citizenship Programme 2014-2020

15 The Equality Mark is a certification awarded to companies / organisations that make gender equality one of their values and whose management is based on the recognition and promotion of the potential of all employees irrespective of their gender and caring responsibilities.

Equal Pay Tool, and through raising awareness on the gender pay gap as well as on the gender pension gap - one of the far-reaching consequences of the gender pay gap.

By means of evaluating and monitoring the gender pay situation within a company, employers can benefit from a designed visual representation to serve as a gender pay situational analysis. This approach is also aligned with the EU's latest Action Plan for 2017-2019 which stresses the need for monitoring and enforcing the principle of equal pay for equal value.

Through the above literature review, salient factors to consider in the development of an equal pay tool have emerged, addressing both the gender pay gap and unequal pay for work of equal value between women and men. These include overall gender differences in salary, the level of educational attainment, designation, job experience, tenure, and overall work-life balance. Other factors, such as skill level, responsibility, and work environment, amongst others, are also important determinants of remuneration, and these are best captured using Job Evaluation Methods. At the same time, the implementation of the tool needs to be simple, intuitive, and sensitive to the local context in terms of organisation size and extent of HR data generally collected by organisations.

3. Methodology and Approach

In developing a methodology to build an equal pay tool, this research study considers the following three principles.

1. **Building on existing equal pay tools and economic literature.**
    Equal pay Tools currently in use are 'tried and tested' and building on the strong foundations of such tools would more likely result in an outcome which is robust, comparable, and legitimate. Further to this, this study also builds upon the Oaxaca-Blinder decomposition method, which is an econometric technique used to decompose the gender pay gap into an observable component and an unobservable component. This is elaborated upon in Section 3.1

2. **Flexibility.**
    One must acknowledge the reality of the Maltese context. The majority of businesses are small or micro-enterprises, employ only a small number of employees, and do not collect sophisticated data on their workforce. Having a complex tool requiring large amounts of data, or complex data, would exclude most Maltese businesses. On the other hand, having a simple tool would probably generate high-level results which do not adequately inform on gender discrimination within the company. A reasonable way forward could be to have different levels of data requirements within the same tool, such that the outcome of the tool would be coherent with the data being entered. By way of example, a sophisticated and large entity could use its entire Human Resources database to generate various results and insights into the gender pay gap (including observed and unobserved elements of the pay gap, such as pay discrimination), whereas smaller entities, having fewer data variables, would only see a portion of the tool output. The data fields required for the tool are discussed in section 3.2

3. **Value of work.**
    Salary, being the market-determined value of human resources, is intrinsically and unequivocally linked to the value being generated by an employee. If an employee produces goods or services (a part thereof) which are desirable and marketable, then it should follow that the salary reflects such value. The issue with value is that there isn't a universal measure of value, especially when it comes to the service industry, where much of the value is intangible. Researchers have often circumvented this issue by looking at observable characteristics (such as years of experience, qualifications, and skills) rather than the output being generated by the employee.

3.1 The model being proposed for the Equal Pay Tool

The original (and standard) method for decomposing the wage gap was developed by Oaxaca and Blinder independently in 1973. It is a widely used methodology which can shed light on the extent of discrimination in the labour market. The technique decomposes the wage gap between two groups (in this case between males and females) into differences owed to observable characteristics (the explained portion), and differences which remain unexplained, which are often attributed to discrimination (though not necessarily so).

Formally, the Oaxaca-Blinder decomposition method employs a log-linear model, regressing the logarithmized hourly wages on a set of explanatory variables (variables which should explain variations in hourly wages like education and experience). Such variables are termed 'endowments', as they are considered as productivity differences explaining the wage gap.

Through algebraic rearrangement, it can be shown that the raw wage differences can be decomposed into three components – an explained component which is explained by differences in endowments between males and females; an unexplained component due to differences in estimated coefficients – which shows part of the wage gap that is due to the fact that the same endowments, say tertiary qualifications, generate different returns to males and females; and a final unexplained component (the constant term) which captures all of the unobservable wage gap determinants. In the literature, the sum of the second and third components are often termed 'the coefficients' effect and signal an element of gender discrimination. The Coefficients' effect represents wage variation between genders which cannot be traced back to personal characteristics or endowments.

The Oaxaca-Blinder decomposition was subject to considerable criticism mainly revolving around model specification and the choice of the independent variables. Most notably, Rosenzweig and Morgan (1976) critiqued the use of the age variables because these were considered imperfect proxies for work experience.

Furthermore, Atal, Ñopo and Winder (2009) noted three major flaws with this methodology – first, they argued this technique only gives insight into the average wage gap, ignoring the different distribution of the gap within the same group (males and females). Secondly, they critique the linear assumption between observed characteristics and wages. Finally, the decomposition technique was critiqued in that it doesn't limit the analysis to comparable like-with-like individuals, and this may create an upward bias of the discrimination component.

From an empirical perspective, Ospino, Vasquez and Barraza Narvaez (2010) mention that the most serious problem with this method is that coefficients "capture biases generated from information problems", which can lead to a questionable interpretation of the residual as a determinant of discrimination.

In order to minimise issues with measuring explanatory variables which might not necessarily capture the variation in salaries, this study aims to adopt a novel approach of focusing on the concept of work value, elicited from a series of questions which give a numerical value for six dimensions. This is explored in the next section.

3.2 The concept of work value

If the design of an Equal Pay Tool is to incorporate the principle of equal pay for work of equal value, then determining the "value" of work is crucial. This is usually done through a process of Job Evaluation Methods (Oelz et al., 2013; and ILO, Gender-Neutral Job Evaluation For Equal Pay: A step-by-step Guide, 2008).

Job Evaluation Methods (JEM) are a process of job comparison methods, used to compare the position of one job to another, on a salary scale. This is most commonly done using two methods – global evaluation methods or analytical evaluation methods.

The main difference between the two is that global evaluation methods examine the job as a whole, while analytical evaluation methods break down jobs into factors and relative sub-factors.

When job evaluation methods were first developed in the 1950s the working environment was more oriented around physical labour, resulting in physical attributes usually associated with male-oriented jobs, being scored higher than soft-skill attributes usually associated with female-oriented jobs.

With the advancement of technology, the shift of jobs from manufacturing to more service-oriented employment, and further acknowledgment of the value of soft-skills, job evaluations are now relying on a larger set of factors, diminishing the effect of male vs female bias evident when job evaluation methods originated.

Non-discriminatory job-evaluation methods ensure a more transparent remuneration system irrespective of sex. Over the years, such inconsistencies have been addressed by a number of alternate job evaluation methods.

ILO (2008) lists four basic factors which must be included in any job evaluation method – qualifications, effort, responsibility, and the work conditions. According to ILO (2008) "these four factors are essential and sufficient for evaluating all the tasks performed in an organisation, regardless of which economic sector the enterprise belongs to." The document goes into further detail for each basic factor and sub-factor, also giving some principles upon which, an evaluation method should be based on such as 'avoiding ambiguity', 'avoiding overlap of factors', and 'adapting the method to the organisation'. The chapter then concluded with a checklist against which a job evaluation method should be judged.

In line with the above, we are proposing a tool that encompasses a job evaluation method that draws from a variety of other job evaluation methods. One of the most notable variants is the use of more concise and simple language to describe each pillar and its relevant sub-criteria, thus ensuring that most companies in Malta may self-administer the tool with ease. The proposed 6 key pillars and their sub-criteria are described in the sections below.

By way of comparison, the below matrix juxtaposes the job characteristics as determined by the proposed job evaluation method, the characteristics as derived from the various Equal Pay Tools, and the literature (more specifically, ILO, 2008 and Oelz et al., 2013).

Salary-information inputs | **NCPE EPT job evaluation methodology**

	Salary	Over-time	Bonus	No. of Hours worked	Experience	Qualifications (Education)	Task difficulty	Influence	Interactions	Type of task/ project management	Supervision	Job risk
Salary Information	›	›	›									
No. of Hours worked				›								
Age					›							
Experience / Entry date (Required by Logib and Logib-D)					›							
Education level						›						
Job complexity							›					
Management position										›	›	
Qualifications						›						
Effort							›		›			
Responsibility (Required by ILO)										›	›	
Working conditions												›

Table 3: Job Evaluation method matrix

Personal Background

This variable measures education and relevant experience required to execute the job. Both qualifications and level of experience can be combined within the same Level, or disaggregated using a matrix, which allows different scores depending on the combination of qualifications and experience (an employee having more than 10 years of experience and no qualifications would be assigned a similar score to an employee with no experience but higher qualifications).

Score	Description
Score 1	No educational qualifications.
	Relevant experience less than 3 years.
Score 2	Education up to MQF/EQF Level 4.
	Relevant experience of 3 to 5 years.
Score 3	Education up to MQF/EQF Level 6 or job relevant certifications.
	Relevant experience of 6 to 10 years.
Score 4	Education up to MQF/EQF Level 7 or job relevant certifications.
	Relevant experience of 11 to 14 years.
Score 5	Education up to MQF/EQF Level 8; or MBA, Master degree with specialization, and relevant job technical certifications.
	Experience: 15 years and over.

Table 4: Personal Background

Task Difficulty

This measures the variety of tasks or methods in the work performed, the extent of effort required in recognising the tasks that need to be completed, as well as the extent to which the job-holder is working independently of others.

Score	Description
Score 1	Work is routine based.
	Relative ease to complete tasks.
	Actions depend on source of information or data provided.
Score 2	Different procedures and methods may be needed on the job.
	Decisions involve various choices which require job-holder to recognise different scenarios and possibilities.
	Actions are determined by taking the initiative to consider different scenarios.
Score 3	Different procedures or methods which require the job-holder to regularly work outside of their comfort zone may be required.
	Identifying tasks to complete are evaluated via different approaches before settling on a course of action.
	Actions require the job-holder to be creative as well as to utilise a certain level of critical thinking to recommend changes to adjust relevant procedures/tasks/processes.

Table 5: Task Difficulty

Score 4	The job comprises varied duties that require many different and unrelated processes and methods.
	Identifying tasks to complete requires the job-holder to work in unfamiliar situations and assess different approaches or incomplete data.
	The job involves defining objectives and strategy within the organisation.
Score 5	The job typically involves a significant amount of concentrated effort with assignments often divided into several stages using a wide range of procedures of a professional area.
	The job involves strategic decision-making.
	Advancing innovation within the organisation, as well as converting broad objectives and strategies into executable actions, are key actions of the job.

Influence

This measures the extent to which the job-holder's work influences the current and future performance of the company, its people, and its reputation.

Score	Description
Score 1	Job-holder is not involved in any decision-making.
	Impact of work is largely limited to the department the job-holder operates in.
Score 2	Work involves supporting the decision-making process only by giving suggestions.
	Job-holder is usually responsible for tasks forming part of a greater undertaking being executed by the organisation.
Score 3	Work involves contributing to the decision-making process by putting forward recommendations that often require research and analysis.
	Job-holder is involved in a broad range of tasks and projects which have a meaningful impact on business operations.
Score 4	The job involves significantly participating in the decision-making process, along with other functions in the organisation. The job-holder uses his/her expertise to bring strategic value to the table.
	Job-holder is involved in assessing the effectiveness and efficiency of some operation in the business as well as handle any unanticipated issues that may arise.
Score 5	The role is critical for the business to achieve its desired objectives as a result of the decisions taken by the job-holder. Final decisions are reviewed by the job-holder.
	Job-holder is involved in resolving critical issues, strategy development and project design, implying the job is directly linked to the business's operations and people.

Table 6: Influence

Interactions

This variable measures inter and intra-departmental cooperation, and the job-holder's capability of building a network and engaging within that network.

Score	Description
Score 1	Work is limited to a single department of the organisation. Collaboration with co-workers in the organisation is minimal.
	No or minimal contact with external customers required.
Score 2	The work requires some basic levels of both intra and interdepartmental interaction.
	A required level of collaboration with internal and external customers is involved.
Score 3	Collaboration with all departments of the organisation required, including working with co-workers on sensitive issues and using negotiation strategies.
	Solution-focused customer interactions are frequent.
Score 4	Regular interaction with several departments of the organisation is expected. Maintaining long-term relationships is required.
	Business development is necessary.
Score 5	Inter and intradepartmental cooperation is essential for the job. Maintaining long-term relationships is required.
	Broad stakeholder relations vital for the organisation's business long-term prospects.

Table 7: Interactions

Supervision

This measures the extent to which the job-holder takes on supervisory responsibilities. The diversity/complexity of the activity of the people under supervision is also taken into consideration. Just like the first criterion, 'Supervision' can either be considered by Levels, encompassing managerial responsibility, or scored via a matrix which combines type of project management and number of people being managed.

Score	Number of people supervised	1 to 3	4 to 9	10 to 15	over 15
Score 1	No supervisory responsibilities.	1			
Score 2	Job-holder supervises the assignment of tasks.	1.5		2	
Score 3	Job-holder supervises the delegation of tasks, planning of work of others.	2.5	3	3.5	
Score 4	Job revolves around managing people including supervision of performance.	4		4.5	
Score 5	Job involves managing the organisation's objectives and strategy.	5			

Table 8: Supervision

Job Risk

This measures the job-holder's physical exertion and potential exposure to physical danger in day-to-day operations.

Score	Description
Score 1	Job is mainly stationary, physical exertion is minimal. Workspace is in accordance with standard prerequisites within the health and safety code, typical of office work or similar.
Score 2	Job requires a minimal level of daily, non-strenuous physical exertion. Carrying of objects heavier than 10Kg is expected. The workspace is concurrently occupied by machinery and objects necessary for daily operations, typical of a manufacturing plant.
Score 3	Job requires high levels of strenuous physical exertion. The nature of work might demand operating in unnatural positions, and the workspace might pose higher risks. High levels of health and safety measures required.

Table 9: Job Risk

3.3 Data and data limitations

Cognizant of the fact that most local businesses do not store large amounts of data on employees, and that most Maltese businesses are classified as SMEs, with over 97.3% of businesses employing less than 10 people and a further 2.1% employing 10-49 people [16] we propose to develop a tool which can be scalable in three tiers.

The first tier would capture very basic data on employee salary, hours worked, and gender. However, the output of the model would be limited to the median and mean gender pay gap, with no information on gender discrimination.

The second tier would capture additional data on observable employee characteristics, such as qualifications, age, tenure, designation (based on International Standard Classification of Occupations (ISCO), divided into 8 major groups or based on entity-specific designations). Given sufficient data richness, this would allow a like-for-like comparison between, say, a male manager and a female manager, both holding tertiary qualifications and with similar experience. This would give an indication of gender discrimination, but differences in salary could be related to other justifiable and unidentifiable factors (such as responsibility, complexity of work, etc.) Nevertheless, in large samples, it is expected that such differences would even out unless a) there is pure gender discrimination at play or b) there are structural factors which hinder women from obtaining positions which command higher salaries (for instance managing large teams or managing large portfolios of clients). For entities submitting both first and second-tier data, an index of gender discrimination can be estimated. This would be based on the disparity in hourly earnings between male and female employees occupying similar roles within an organisation. This calculation is similar to the gender pay gap calculation, but the sample set would be limited to like-for-like employees. It would be the NCPE's prerogative to enquire further if such an index falls below a certain threshold.

The third tier would capture, in addition to the data in the first two tiers, the value of work through an employee questionnaire. This would enable a calculation of pure gender discrimination insofar as all the other explanatory variables control for the key drivers of salary determination. Within the third tier

16 https://nso.gov.mt/en/News_Releases/View_by_Unit/Unit_B4/Business_Registers/Documents/2019/News2019_067.pdf

level of data, the decomposition method can be employed through a log-linear regression technique. Given the data requirements of this method, it is expected that such a method would only be employed for organisations employing over 50 individuals. Additionally, with the third tier data, one can also employ a method whereby job value ranges (through the JEM) are compared to salary ranges for both males and females. For samples with sufficient data points, a test for statistically significant differences between two means (males vs females) can be carried out.

Needless to say, a major limitation of both the Tier 2 and Tier 3 estimation methods is the potential lack of depth within the organisational hierarchy. For instance, if an organisation employs ten individuals, all at different levels (from managing director to administrator), then there would be no way to discern whether gender discrimination exists at all, irrespective of the calculation method being employed.

Below we document the data fields which would be required by the equal pay tool. Tier information is provided in square brackets.

Model inputs for each employee:
- Annual Gross Salary (including bonuses and overtime) – Euro amount for the previous full calendar year [Tiers 1, 2 and 3]

- Gender - (Male / Female) [Tiers 1, 2 and 3]

- Working time – Full-time/ Part-time / Reduced (specify number of hours) [Tier 1, 2 and 3]

- Actual number of hours worked in a year [Tiers 1, 2 and 3]

- Qualifications [Tier 2 and 3]

- Date of Birth [Tier 2 and 3]

- Tenure [Tier 2 and 3]

- Job Type [Tier 2 and 3]

- Occupation in the organisation [Tier 2 and 3]

- Answers to questionnaire based on six dimensions of work value [Tier 3 only]

Model outputs:
- Mean hourly earnings of males [Tiers 1, 2 and 3]

- Mean hourly earnings of females [Tiers 1, 2 and 3]

- Median hourly earnings of males [Tiers 1, 2 and 3]

- Median hourly earnings of females [Tiers 1, 2 and 3]

- Gender pay gap (mean): 2 / 1 [Tiers 1, 2 and 3]

- Gender pay gap (median) 4 / 3 [Tiers 1, 2 and 3]

- Extent of gender discrimination and gender pay gap between similar groups (males vs females) [Tier 2 and 3]

- A score from 0 to 1000 based on the answers received from the questionnaire [Tier 3 only]

- Extent of gender discrimination (expressed in percentage terms) after controlling for value of work. [Tier 3 only]

3.4 Validation of model proposed for the Equal Pay Tool

In the previous sections, we have established that the Equal Pay Tool framework is to follow a number of principles to ensure that it is an implementable and relevant tool which informs on gender pay discrimination.

In particular, we have emphasized that the tool is to focus on work value as a determinant of pay – with value being determined through 6 dimensions that have been developed based upon the KPMG Job Evaluation Method - whilst building on the foundations of existing equal pay tools being administered throughout Europe. Further to this, our proposed methodology is also building on existing economic literature, most notably the Oaxaca-Blinder decomposition method which is the most common technique to analyse gender discrimination in the literature.

In order to validate such a framework, we carried out a tripartite stakeholder consultation phase, focusing on the following validation areas:

1. Understanding Employers – The equal pay tool was considered by international users/ administrators of existing international equal pay tools – The scope was to ensure that the practical elements of the tool are met. Here we:

- Validated the work value dimensions

- Were these sufficient?

- Were there other elements which can explain variation in salary?

- Validated the dimension weighting

- Should the dimensions be given equal or unequal weight?

2. Acceptance – Unions – The scope of this exercise was to ensure 'market' buy-in from Unions and other target groups, thus pre-empting resistance when the tool will be launched. This will be especially prominent for the main entries of the tool. Here we sought acceptance through the use of a series of three-point scales (easy / medium / hard) to establish the data collection necessary to complete the equal pay tool

3. Implementation – Operators – the scope here is to understand challenges and build insight related to what they would change from the proposed tool.

- Data availability

- Do businesses collect such data?

- Compliance

- Would one expect to dedicate time to fill in a questionnaire to obtain the Equality Mark Certification?

- What can be done to increase compliance?

3.4.1 SELECTION AND SAMPLING

To ensure a robust validation process of our findings during the literature review stage, we adopted a tripartite stakeholder approach to the selection of stakeholders for validation. The three distinct target groups, who participated in the research project were:

1. Target Group A - Foreign Equal Pay Tool Operators

2. Target Group B - Local Employers

3. Target Group C - Local Unions / Employer and Employee Representatives

As one of the study's limitations is the number of Equal Pay tool operators available, purposive sampling was adopted when tackling target group A. To ensure that we had the correct operators participating in this study, we directly reached out to the team members responsible for developing both Logib-D and the eg-check.de given that, as mentioned in the literature above, the eg-check.de is a derivative of Logib-D that was developed to better suit small companies in Germany, and thus may be better suited to the Maltese context.

The same sampling method was adopted when approaching local unions. The aim here was to ensure the participation of the most important union representatives on the island (in terms of the number of both employer and employee members) within the most relevant economic sectors.

Finally, convenience sampling was the sampling methodology adopted when tackling employers. We set the target of contacting 15 companies - 5 small, 5 medium, and 5 large entities to participate in the research study. We then worked to ensure that we received as many replies as possible from these 15 entities.

Furthermore, to ensure the collection of as much data as possible, data collection was conducted via interviews, held either online or via telephone with all target groups, while additionally also holding focus groups with both target groups B and C. Unfortunately, due to the geographical implications and the small pool of respondents, a focus group with target group A could not be held.

3.4.2 VALIDATION INTERVIEWS AND FOCUS GROUPS COMPLETED

Target Group A - Foreign Equal Pay Tool Operator

Methodology	No. of Participants	Tool
Interviews Held	3	Logib-D eg-check eg-check
Focus Group	0	N/A

Target Group B – Local Employers/ Companies

Methodology	No. of Participants	No. of Companies
Interviews Held	8	8
Focus Group	1	4

Target Group C – Local Unions/ Employer and Employee Representatives

Methodology	No. of Participants	No. of Trade Unions
Interviews Held	3	3
Focus Group	4	4

Table 10: Validation interviews and focus groups completed

3.4.3 DATA COLLECTION INSTRUMENTS

Both questionnaires developed for the purpose of this study are presented in Section 4.1 (Foreign Equal Pay Tool Operator – target Group A) and Section 4.2 (Local Employers and Local Unions/ Employer and Employee Representatives, target groups B and C).

4. Data Analysis

4.1 Target Group A - Foreign Equal Pay Tool Operators

Throughout the research study, it transpired that both tools available in Germany, the EG-Check and Logib-D, essentially investigate the notion of **Equal pay for work of equal value.** This is crucial to our research as this is the overarching principle that is to be applied to the tool being developed for the Maltese context. Moreover, the tools used in Germany clearly indicate that it is also possible to develop a tool that is suitable to the Maltese context, i.e. one where the country's company demographic is predominantly comprised of SMEs**.**

Similar to the local context, no country abroad has legislation that promotes the use of equal pay tools as obligatory. It is therefore not surprising that all the overseas operators we interviewed alluded to the fact that, should the local government back the tool by making its use obligatory, the overall success of the tool would increase significantly. In attestation of this, in particular the operators in Germany stated that their tools were highly successful among **Social Partners.**

Furthermore, when asked to give some information on the main challenges they have encountered over the years, the most dominant replies were:

- **Lack of cooperation from employers, and**

- **Inconclusive results with respect to the gender pay gap.**

It was however also pointed out by one of the operators that over the years, employers are growing more aware of the benefits of adopting equal pay for work of equal value following the use of the equal pay tools.

When focusing on the Six-Pillar Framework which constitutes the determinants of work value, the consensus here was that adopting this suggested framework could ensure a **holistic approach** to capture the value of a job.

Additionally, when asked whether the six criteria should hold equal or separate weighting in determining job value, all participants agreed that **separate weighting will make the tool more accurate**, however, they also **acknowledged that should this approach be adopted, ideally weightings would also be sector/industry specific. Achieving this would not be possible immediately, with several runs and use of the tool by different employers in different sectors required, and refinement of the tool based on feedback.**

Another important notion emerged. An element of education of employers is required throughout the launch phase and extended for an indefinite period, in order to ensure take up and use of the tool, and the correct completion of the tool by the employer representatives. The representative must be a senior member of staff, ideally coming from the HR and/or leadership functions of the enterprise. Furthermore, a verification exercise may be carried out of such data, either by having inputs of said data verified

by a representative sample of the employee population within the respective enterprise, or by the government entity managing the Equal Pay Tool.

4.2 Target Group B - Local Employers

Throughout the data collection with the various members of the participating employers, one must highlight the distinctive replies put forward when asked to describe the 'value of work'. The main themes pointed out are namely: the **financial contribution** an employee makes towards a company, an employee's **alignment with respect to the companies' values and culture**, and finally the employee's **willingness to grow and develop.** While no response was invalid, one can note the inability many companies face when having to denote an accurate definition of the value of work to their enterprise.

This lack of cohesiveness was not representative throughout the entire research study with this Target Group, as when asked about the Six-Pillar Framework constituting the determinants for work value, one could appreciate that **all respondents unanimously agreed to the adaptability of this framework to the establishment of the value of work in their organisations**. The respondents did also agree, however, that throughout the framework more **abstract elements such as soft skills which are harder to comprehend are under-represented in the Six-Pillar Framework.**

Additionally, further validating the response put forward by Target Group A, while the majority of participants did agree with the various pillars holding different weighting, all respondents would weigh the criteria differently, thus **highlighting that while weighting may be ideal, it is not easily adopted as each industry would demand a varying matrix tailored to their specific industry.**

Finally, when responding to the final question concerning the Six Pillar framework to be adopted throughout phase three of the tool, seven participants agreed that the level of clarity **and their descriptions put forward by the six criteria encompassing the pillars and their relevant sub-criteria is straightforward,** with only **one of the participants raising the concern that the descriptions may need further simplification.**

The agreement amongst respondents was also evident when the extent of difficulty to complete data collection necessary to fulfil tiers one and two was asked. Five of the eight participants highlighted that **all required data entries are easy to collect**. Additionally, 3 participants indicated that the majority of the requested data is easy to collect however data related to **qualifications and the actual number of hours worked in a year are cumbersome** (classification given - medium) as the data is available to the company but extraction of the data is a manual operation.

Data Field	Three-point Scale: Easy, Medium, Hard
Annual Gross Salary (including bonuses and overtime) – Euro amount for the previous full calendar year	Easy
Gender - (Male / Female)	Easy
Working time – Full-time/ Part-time / Reduced from a full-time basis (specify number of hours)	Easy
Actual number of hours worked in a year	Easy to medium
Qualifications	Easy to medium
Date of Birth	Easy
Tenure	Easy
Designation	Easy
Employee job levels from CEO to admin	Easy

Table 11: Level of ease for companies to extrapolate the necessary data for tier 1 and 2 – Local Employers

The level of cohesiveness in the responses put forward was once again evident when the participants were asked who within the company should be responsible for the data collection for each of the three tiers. **The most common reply was the human resources personnel or the member of staff responsible for this function,** notwithstanding the fact it was acknowledged that in doing so, the **risk of bias and/or misrepresentation of the data, and hence the outcome, was high**.

It is however also worth noting that three of the participants did highlight that all data collection should be carried out **by a working group composed of various staff members from all factions of the company's hierarchical structure, hence eliminating or reducing biases**, **and/or misrepresentation of data.**

Finally, when discussing the necessary assistance needed when a company will be embarking on completing the pre-requisites necessary to fulfil the requirements for the equal pay tool, all three various modes of assistance stood out, via which the concerned entity should ideally make itself available, hence, **via hotline and/or email support and via offline or online meetings.**

4.3 Target Group C - Local Unions / Employer and Employee Representatives.

The questionnaire designed for this target group immediately delved into the Six Pillar Framework suggested for tier three of the proposed equal pay tool. Here **all the union bodies participating were in agreement with the suggested approach.**

Also, similarly to Target Group B, when asked to rate the level of ease, on a three-point scale (easy-medium-hard) with which companies may extrapolate the data necessary for tiers one and two, **it was suggested that the majority of data entry points are easily collected.** Once more, as per target group B, the only data entry point to which it was indicated that the necessary data was not easy to collect was the data entry field entitled, **Qualification.**

Data Field	Three-point Scale: Easy, Medium, Hard
Annual Gross Salary (including bonuses and overtime) – Euro amount for the previous full calendar year	Easy
Gender - (Male / Female)	Easy
Working time – Full-time/ Part-time / Reduced from a full-time basis (specify number of hours)	Easy
Actual number of hours worked in a year	Easy
Qualifications	Medium
Date of Birth	Easy
Tenure	Easy
Designation	Easy
Employee job levels from CEO to admin	Easy

Table 12: Level of ease for companies to extrapolate the necessary data for tier 1 and 2 – Local Unions

Furthermore, similarly to their research study counterparts in Target Groups A and B, members from Target Group C, also agreed that the Six-Pillars **should be weighted for value of contribution to work value**. It is interesting to note, that once again **all respondents gave differentiating replies when indicating which criteria should hold the most weight.** One can thus recommend that, at least in its initial phase, all six criteria encompassing the Equal Pay tool should carry equal weight due to the complexities different weighting might bring forward when implementing amongst different entities in different sectors. Added to this was the consensus that the **granular detail used to describe the Six-Pillars is enough for use in the Equal Pay Tool.**

It was suggested that appropriate guidelines will be necessary for all participants to use as a reference when one is completing tiers one to three of the tool. When asked about who should be involved in the data collection mechanism when companies are completing the Equal Pay Tool, the unions participating in this study unanimously agreed the this should be carried out **by senior management, however, employees should be involved in a verification process as this will reduce the risk of presenting biased data**. This opinion was further expressed when the participants also agreed that all responses **shall undergo a process of internal review**. Once more this shows the target group's concern with regards to ensuring that the risk of bias throughout the data collection process must be eliminated.

Furthermore, the same unanimous sentiment was expressed when unions were asked about what stance should be adopted when an employee's role is evaluated by the data inputter from the enterprise as lying somewhere in-between in the answer options provided for the various Pillars, hence posing the concern of whether one should mark up or down. The expressed sentiment was that one **should always mark up, i.e. select the higher level when in doubt. Alternatively, one may seek the input from another leader in the organisation or seek advice from the government entity managing the Equal Pay Tool.**

In this respect, it was once again reiterated that support should be made available, together with the provision of appropriate guidelines, in accordance to what was expressed by the responses put forward by Target Group B. The form of support could be training, consultancy, **and email support**.

4.4 Key Takeaways

1	It is possible to develop an equal pay tool designed to measure **Equal pay for work of equal value**
2	EG-Check is the most suitable foreign equal pay tool available, one that may be adapted to the local context
3	Building a tool suitable to the Maltese context is achievable, but due consideration should be given to the fact that the vast majority of businesses employ less than 50 people
4	The 6-pillar framework developed to measure the constituents of work value, was endorsed by all stakeholders participating in the research study
5	Sector specific weighting of the 6 criteria would create a more precise measurement of value, however, as we lack the information necessary to weight each criterion per economic sector, it would be appropriate to launch the tool with equally weighted criteria
6	A 3-tier approach to data entries for the equal pay tool for Malta is being proposed in order for it to be suitable for entities of various sizes; the 3 tiers build one upon the other, hence tier 1 and 2 would always need to be completed in order to proceed to tier 3
7	The data fields required to compile tiers 1 and 2 of the equal pay tool, as developed, are for the vast majority easily accessible data entry requirements
8	The authority managing the equal pay tool will need to offer assistance to, and educate, the local businesses, to ensure uptake of the initiative, appropriate use of the equal pay tool, and proper data entries irrespective of whether the entity is compiling tier one, two or three of the Equal Pay Tool

Table 13: Key Takeaways

5. Technical Specifications

5.0 Technical Specifications

This section will define the features and functionality of the tool and go into more detail with respect to the generic specifications described in Section 1. This will include the list of required inputs and outputs necessary for each tier.

5.1 High-Level Process Diagram

Figure 1 below illustrates a high-level representation of the process, starting from the organisations themselves and concluding at NCPE.

1. Organisations will express interest in applying for the Equality Mark by notifying NCPE.

2. NCPE will send the Equal Pay Tool via email to the organisation.

3. The organisation's HR manager (or an HR representative) will enter the required details in the tool, for the applicable tiers.

4. According to the populated tier, a number of calculations will be performed to produce the relevant outputs.

5. Organisations will send the final populated version of the Excel workbook to NCPE for further analysis.
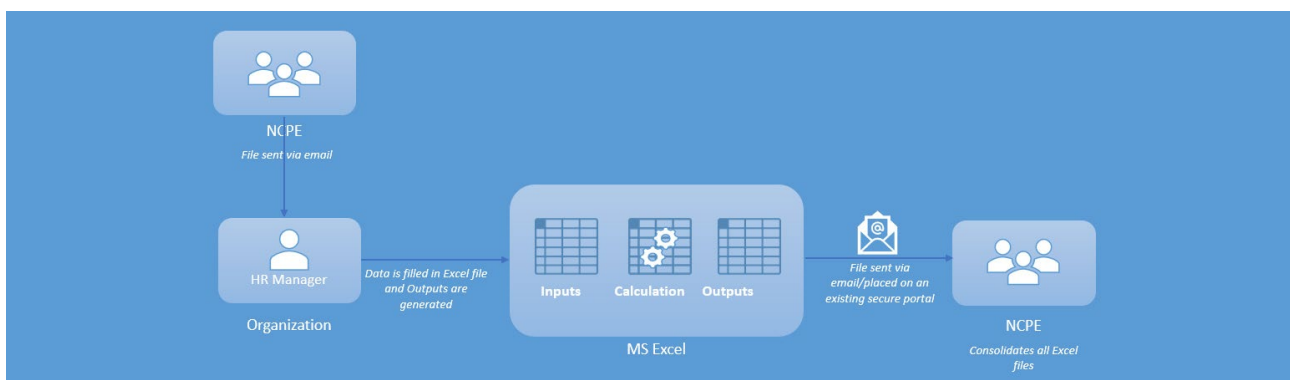
Figure 1 High-Level Process Diagram

Process Flow

Organization (HR Manager/Representative)

NCPE

Start

Request Tool from NCPE

Send Equal Pay Tool via email

Fill in Tier 1 Inputs

Is Tier 2 applicable? — No

Yes

Fill in Tier 2 Inputs

Send populated workbook via email/secure transfer area

Analyse score

Is Tier 3 applicable? — No

Yes

Fill in Tier 3 Inputs

End
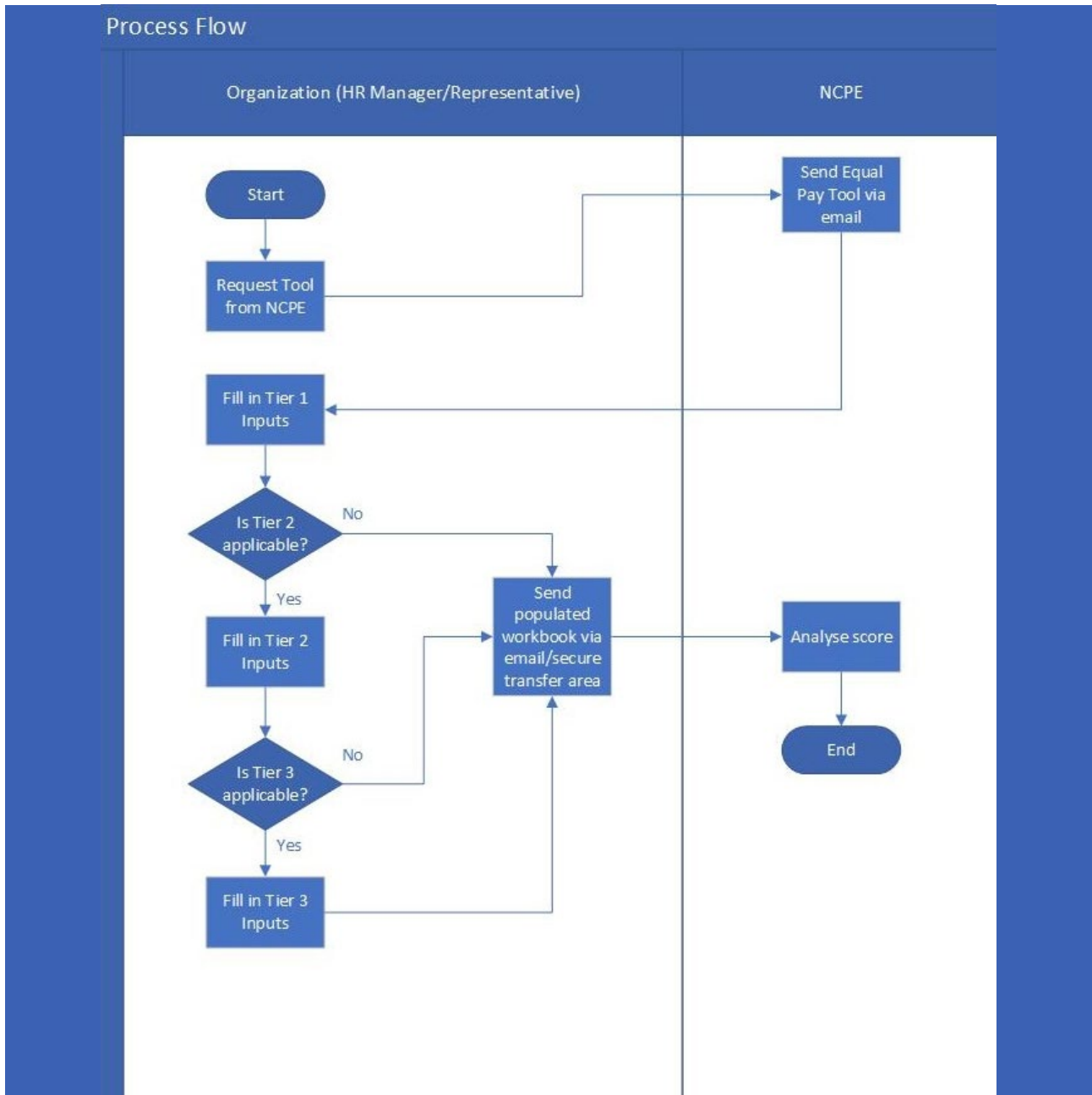
5.2 Tier Definitions

As described in Section 1, the tool will comprise of 3 different tiers requiring different inputs and producing different outputs as explained in further detail within this section.

The following detail is defined for every input required:

- Field (name of input)

- Data type (for cell type and formatting purposes)

- Mandatory (if input is required or not)

- Validations

- Description (in the case of dropdown lists, this will state the list of possible values. Other inputs will have a brief description of the input, to be added in the tool as a tooltip)

5.2.1 Tier 1

Tier 1 needs to capture the following data:

Field	Data Type	Mandatory	Validations	Description
Employee Identification	Text	Yes		e.g. 001, 002, …
Basic Gross Pay	Number	Yes	Greater than 0	
Overtime	Number	Yes	Greater than or equal to 0	
Taxable Fringe Benefits	Number	Yes	Greater than or equal to 0	
Non-Taxable Fringe Benefits	Number	Yes	Greater than or equal to 0	
Bonuses per Annum	Number	Yes	Greater than or equal to 0	
Gender	Dropdown list	Yes	Will only accept values from the dropdown list	Male/Female
Working Time	Dropdown list	Yes	Will only accept values from the dropdown list	Full-Time/Part-Time/ Reduced
Normal hours worked per Annum	Number	Yes		This input refers to the number of hours worked during the last calendar year.
Overtime hours worked per Annum	Number	No		This input refers to the number of overtime hours worked during the last calendar year.

Table 14: Tier 1 - Data entry points

Calculations

The following formulae are required to produce the outputs defined in the next section:

i. Mean hourly wage for male employees (excl. overtime)

$$\frac{\sum_{i=1}^{M}\left(\frac{Gross\ Pay\ ex\ O/T}{HRS\ worked\ ex\ O/T}\right)}{M}$$

Where i = male identifier; M = number of males in an organisation.

ii. Mean hourly wage for female employees (excl. overtime)

$$\frac{\sum_{i=1}^{F}\left(\frac{Gross\ Pay\ ex\ O/T}{HRS\ worked\ ex\ O/T}\right)}{F}$$

Where i = female identifier; F = number of females in an organisation.

iii. Mean hourly wage for male employees (incl. overtime)

$$\frac{\sum_{i=1}^{M}\left(\frac{Gross\ Pay\ incl\ O/T}{HRS\ worked\ incl\ O/T}\right)}{M}$$

Where i = male identifier; M = number of males in an organisation.

iv. Mean hourly wage for female employees (incl. overtime)

$$\frac{\sum_{i=1}^{F}\left(\frac{Gross\ Pay\ incl\ O/T}{HRS\ worked\ incl\ O/T}\right)}{F}$$

Where i = female identifier; F = number of females in an organisation.

v. Median hourly wage for male employees (excl. overtime)

$$\{(M+1) \div 2\}^{th}\ value$$

Where M = number of males in an organisation; Hourly wages (excluding overtime) sorted in ascending order

vi. Median hourly wage for female employees (excl. overtime)

$$\{(F+1) \div 2\}^{th}\ value$$

Where F = number of females in an organisation; Hourly wages (excluding overtime) sorted in ascending order

vii. Median hourly wage for male employees (incl. overtime)

$$\{(M+1) \div 2\}^{th}\ value$$

Where M = number of males in an organisation; Hourly wages (including overtime) sorted in ascending order

viii. Median hourly wage for female employees (incl. overtime)

$$\{(F + 1) \div 2\}^{th} \; value$$

Where F = number of females in an organisation; Hourly wages (including overtime) sorted in ascending order

Results

Based on the above formulae, four gender pay gap variants can be calculated as follows:

$$\frac{Result\ of\ ii.}{Result\ of\ i.} \qquad \frac{Result\ of\ iv.}{Result\ of\ iii.} \qquad \frac{Result\ of\ vi.}{Result\ of\ v.} \qquad \frac{Result\ of\ viii.}{Result\ of\ vii.}$$

Outputs

After the calculations for Tier 1 are performed, the tool needs to display the following information:

- Mean hourly earnings of males (including / excluding overtime)

- Mean hourly earnings of females (including / excluding overtime)

- Median hourly earnings of males

- Median hourly earnings of females

- Gender pay gap (mean) between male and female employees (including / excluding overtime)

- Gender pay gap (median) between male and female employees (including / excluding overtime)

5.2.2 Tier 2

Inputs
Tier 2 needs to capture the data below. Calculations for this tier will also use the required inputs of Tier 1. For such calculations, inputs will be read directly from Tier 1 and hence the user should not be required to re-enter said inputs.

Field	Data Type	Mandatory	Validations	Description
Date of Birth	Number	Yes		
Tenure	Number	Yes		Measure of the length of time an employee has been employed by his/her current employer
Qualifications	Dropdown list	Yes	Will only accept values from the dropdown list	MQF Levels (Refer to Section 9.3)
Job Type	Dropdown list	Yes	Will only accept values from the dropdown list	• Manager • Professional • Technicians and associate professional • Clerical support worker • Service and sales worker • Skilled agricultural, forestry and fishery worker • Craft and related trades worker • Plant and machine operator, and assembler • Elementary occupation • Armed forces occupation
Occupation in the Organisation	Dropdown list	Yes	Will only accept values from the dropdown list	Refer to the Alphabetical list of Occupations section from the Occupational Handbook[17]

Table 15: Tier 2 - Data entry points

_____

17 https://secure.etc.gov.mt/homedir/temp/Occupational_Handbook_Softview_v2.pdf

Calculations

For this tier's calculations, refer to the Calculations section of Tier 1. Employees must be grouped according to the following criteria and each formula is applied on every sub-group:

- Qualification

- Job Type

- Name of Occupation

Outputs

After the calculations for Tier 2 are performed, the tool needs to display results of the extent of gender discrimination and gender pay gap amongst similar groups of employees doing similar work.

Refer to the Outputs section of Tier 1. Such information must be provided for every sub-group listed in the Calculations section above.

5.2.3 Tier 3

Inputs

Tier 3 will build upon the inputs already entered in Tier 1 and Tier 2. Additionally, it also requires a score calculated from a questionnaire following the process below:

- From the Equal Pay Tool, the user (HR Manager/HR Representative) will be able to view a questionnaire, which will contain 6 criteria. The user will need to give a score to each criteria. (See section below for the detailed requirements).

- The number of times the scoring needs to be calculated should be shown to the user. This is calculated by extracting the number of combinations for the *Job Type* and *Name of Occupation* inputs from Tier 2. In the example below, the scoring needs to be calculated 4 times as the same score will be used for Employee 002 and 003

Employee Identification	Job Type	Name of Occupation
001	Manager	ICT Services Manager
002	Professional	Systems Analyst
003	Professional	Systems Analyst
004	Clerical Support Worker	General Office Clerk
005	Clerical Support Worker	General Receptionist

Table 16: Tier 3 - Total entries

- As a result of the above, every employee will have a score assigned to them. This score must be extracted and inserted as an input for Tier 3 for each individual employee. The score must be taken directly from the questionnaires and cannot be modified from the Equal Pay Tool

Field	Data Type	Mandatory	Validations	Description
Salary	Number	Yes	This is automatically calculated from the inputs obtained in Tier 1 i.e. the summation of the following: • Basic Gross Pay • Overtime • Taxable Fringe Benefits • Non-Taxable Fringe Benefits • Bonuses	
Final Score	Number	Yes	This score must be read from the questionnaire in Tier 3, and cannot be modified	
Gender	Number	Yes	This is automatically derived from the Gender input obtained in Tier 1. If input is M, then 0 Else 1	0 or 1

Table 17: Additional information required for Tier 3

Questionnaire

The idea behind the questionnaire in Tier 3 is crucial to determine the value of work. It focuses on six key pillars as follows:

• Personal background – This measures education and relevant experience required to execute the job.

• Task difficulty – This measures the variety of tasks or methods in the work performed, the extent of effort required in recognising the tasks that need to be completed, as well as the extent to which the job-holder is working independently of others.

• Influence – This measures the extent to which the job-holder's work influences the current and future performance of the company, its people, and its reputation.

• Interactions – This measures for inter and intradepartmental cooperation, and one's capability of building a network, and engaging within that network.

• Supervision – This measures the extent to which the job-holder takes on supervisory responsibilities.

• Job Risk – This measures the job-holder's physical exertion and potential exposure to physical danger in day-to-day operations.

The Questionnaire workbook must contain the following information on the below six pillars, which will aid the HR manager in populating the questionnaire.

Personal Background

This measures education and relevant experience required to execute the job.

Score	Description
Score 1	No educational tuition
	Relevant experience less than 3 years
Score 2	Education up to MQF/EQF Level 4
	Relevant experience of 3 to 5 years.
Score 3	Education up to MQF/EQF Level 6 or job relevant certifications.
	Relevant experience of 6 to 10 years.
Score 4	Education up to MQF/EQF Level 7 or job relevant certifications.
	Relevant experience of 11 to 14 years.
Score 5	Education up to MQF/EQF Level 8; or MBA, Master degree with specialization, and relevant job technical certifications.
	Experience: 15 years and over

Table 18: Tier 3 - Personal background score matrix

Task Difficulty

This measures the variety of tasks or methods in the work performed, the extent of effort required in recognising the tasks that need to be completed, as well as the extent to which the job-holder is working independently of others.

Score	Description
Score 1	Work is routine based.
	Relative ease to complete tasks.
	Actions depend on source of information or data provided.
Score 2	Different procedures and methods may be needed on the job.
	Decisions involve various choices which require job-holder to recognise different scenarios and possibilities.
	Actions are determined by taking the initiative to consider different scenarios.
Score 3	Different procedures or methods which require the job-holder to regularly work outside of their comfort zone may be required.
	Identifying tasks to complete are evaluated via different approaches before settling on a course of action.
	Actions require the job-holder to be creative as well as utilise a certain level of critical thinking to recommend changes to adjust relevant procedures/tasks/processes.
Score 4	The job comprises varied duties that require many different and unrelated processes and methods.
	Identifying tasks to complete requires the job-holder to work in unfamiliar situations and assess different approaches or incomplete data.
	The job involves defining objectives and strategy within the organisation.
Score 5	The job typically involves a significant amount of concentrated effort with assignments often divided into several stages using a wide range of procedures of a professional area.
	The job involves strategic decision-making.
	Advancing innovation within the organisation, as well as converting broad objectives and strategies into executable actions, are key actions of the job.

Table 19: Tier 3 - Task difficulty score matrix

Influence

This measures the extent to which the job-holder's work influences the current and future performance of the company, its people, and its reputation.

Score	Description
Score 1	Job-holder is not involved in any decision-making.
	Impact of work is largely limited to the department the job-holder operates in.
Score 2	Work involves supporting in the decision-making process only by giving suggestions.
	Job-holder is usually responsible for tasks forming part of a greater undertaking being executed by the organisation.
Score 3	Work involves supporting in the decision-making process by putting forward recommendations that often require research and analysis.
	Job-holder is involved in a broad range of tasks and projects which have a meaningful impact on business operations.
Score 4	The job involves significantly participating in the decision-making process, along with other functions in the organisation. The job-holder uses his/her expertise to bring strategic value to the table.
	Job-holder is involved in assessing the effectiveness and efficiency of some operation in the business as well as handle any unanticipated issues that may arise.
Score 5	The role is critical for the business to achieve its desired objectives as a result of the decisions taken by the job-holder. Final decisions are reviewed by the job-holder.
	Job-holder is involved in resolving critical issues, strategy development and project design, implying the job is directly linked to the business's operations and people.

Table 20: Tier 3 - Influence score matrix

Interactions

This measures for inter and intradepartmental cooperation, and the job-holder's capability of building a network and engaging within that network.

Score	Description
Score 1	Work is limited to a single department of the organisation. Collaboration with co-workers in the organisation is minimal.
	No or minimal contact with external customers required.
Score 2	The work requires some basic levels of both intra and interdepartmental interaction.
	A required level of collaboration with internal and external customers is involved.
Score 3	Collaboration with all departments of the organisation required, including working with co-workers on sensitive issues and negotiation.
	Solution-focused customer interactions are frequent.
Score 4	Regular interaction with several departments of the organisation is expected. Maintaining long-term relationships is required.
	Business development is necessary.
Score 5	Inter and intradepartmental cooperation is essential for the job. Maintaining long-term relationships is required.
	Broad stakeholder relations vital for the organisation's business long-term prospects.

Table 21: Tier 3 - Interactions score matrix

Supervision

This measures the extent to which the job-holder takes on supervisory responsibilities.

Score	Number of people supervised	1 to 3	4 to 9	10 to 15	Over 15
Score 1	No supervisory responsibilities.	1			
Score 2	Job-holder supervises the assignment of tasks.	1.5		2	
Score 3	Job-holder supervises the delegation of tasks, planning of work of others.	2.5	3	3.5	
Score 4	Job revolves around managing people including supervision of performance.	4		4.5	
Score 5	Job involves managing the organisation's objectives and strategy.	5			

Table 22: Tier 3 - Supervision score matrix

Job Risk

This measures the job-holder's physical exertion and potential exposure to physical danger in day-to-day operations.

Score	Description
Score 1	Job is mainly stationary, physical exertion is minimal. Workspace is in accordance with standard prerequisites within the health and safety code, typical of office work or similar.
Score 2	Job requires a minimal level of daily, non-strenuous physical exertion. Carrying of objects heavier than 10Kg is expected. The workspace is concurrently occupied by machinery and objects necessary for daily operations, typical of a manufacturing plant.
Score 3	Job requires high levels of strenuous physical exertion. The nature of work might demand operating in unnatural positions, and the workspace might pose higher risks. High levels of health and safety measures required.

Table 23: Tier 3 - Job Risk score matrix

To calculate the score for each criterion, the below weighting and values need to be used. The addition of each score will produce the final score for an individual.

Evaluation Criteria

Criteria	Weight
Personal Background	16.67%
Task Difficulty	16.67%
Influence	16.67%
Interactions	16.67%
Supervision	16.67%
Job Risk	16.67%
Total	**100%**

Table 24: Six pillar criteria weighting

Score

Score	Relative Values
1	20
1.5	30
2	40
2.5	50
3	60
3.5	70
4	80
4.5	90
5	100

Table 25: Score relative values over 100

Therefore, to calculate the score for a criterion:
*Relative value according to score * Weight for relevant criteria*
e.g. if a score of **3** is given to the Knowledge criterion, the computed score would be
60 * 16.67% = **10.002**

Calculations

The output of Tier 3 will be calculated using the Linear Regression functionality available in Microsoft Excel with the following inputs:
- Input Y Range: Salary column
- Input X Range: Final Score and Gender columns

Outputs

After regression is performed, the end user needs to view the following outputs:
- Adjusted R Square
  — **Tooltip**: Measure of goodness of fit. Value is an index between 0 and 1, with 1 being a perfect fit. E.g. if the value is 0.8, this implies 80% of variations in take-home pay are explained by variations in the 6 pillars of work

- Coefficients (for X Variable 1 and X Variable 2)
  — **Tooltip**: Coefficients measure the extent to which take-home pay varies with change in work value (X Variable 1) and gender (X Variable 2)

- P-value (for X Variable 1 and X Variable 2
  — **Tooltip:** The P-value on X variable 2 (gender) is the level of statistical significance within a test representing the probability that the take-home pay varies due to discrimination. A smaller P-value means that there is stronger evidence there is such discrimination (i.e. the coefficient is statistically different than zero).

5.3 Other Inputs

General Information

Field	Data Type	Mandatory	Validations	Description
Company Name	Text	Yes		
Address	Text	Yes		
Contact Person	Text	Yes		
Telephone No.	Text	Yes		
E-Mail	Text	Yes		
Year	Text	Yes		The year for which data is being entered
Number of Employees	Number	Yes		
Number of Full Time Equivalents	Number	Yes		
Sector	Dropdown list	Yes	Will only accept values from the dropdown list	Industry sectors (Refer to Section 9.4

Table 26: General inputs data entries

5.4 Security

The table below illustrates the security required from an organisation's perspective. In a nutshell, organisations will only be able to view and modify the cells representing the inputs (except for Tier 3 as stated before).

Worksheet Type	Editable	Protected (with a password)	Visible	Locked cells
Inputs	Yes	No	Yes	No
Calculations	No	Yes	No	No
Outputs	No	Yes	No	Yes
Any configurations	No	Yes	No	No

Table 27: Organisation's required security

6. Recommendations

6.1 Implementation of the Equal Pay Tool

The implementation of the tool, amongst the various businesses from the various sectors in Malta, needs to be approached carefully in order for the overall NCPE initiative to be a success.

6.1.1 Administrator and User Education

To further simplify the practicality of the tool, it is also imperative that the administrators and users of the tool and its advocates are also educated on the importance and scope of the tool. This means sharing the reasoning behind the tool's development, the research upon which it is based, how it is created, and the ultimate vision of the impact of use. Having this understanding will solidify the appreciation for the tool in its users and make it more likely for the tool to be used as it was intended and ultimately have the anticipated positive results.

Furthermore, it is imperative that all administrators and users of the tool are are given training on how to use the tool, as well as thoroughly familiarize themselves with the user guide which will also be sent to all users of the tool. Knowing how to use the tool, and understanding its added value to the array of services already being offered by the NCPE, is the first step towards the tool being used efficiently and in the way it was intended. This means that administrators and users must be taught how to fill in each section, and be familiar with the platform through which they are to provide the necessary data.

6.1.2 Communication with Key Stakeholders

It is also recommended that the NCPE continues to work hand in hand with all key stakeholders to ensure that the tool's vision is realised. Communication channels with key stakeholders are to remain open between the NCPE who have control over the overall strategy of the tool and members who are using the tool, or other stakeholders who are in close contact with and can offer any form of assistance to members using the tool. This will encourage enhanced user response rates and participation.

6.1.3 Support System for the Tool Administrators

The team members within the NCPE who are responsible for the administration of the tool are to be given the necessary support system they can refer to and seek assistance when necessary. The tool developed to date is a first version, and as a result upon initial deployment of the tool, the NCPE staff members will unarguably receive numerous requests for assistance from the users of the tool. This will be useful for the further refinement of the tool. While, as mentioned above, all users and staff members need to be given the necessary training to run and operate the tool, providing

the tool administrators with the option to request for assistance would further ensure a successful transition towards enabling the attainment of the vision of the tool.

6.1.4 The Tool as an Indicator

It is highly recommended that the NCPE only use the tool as an aid for them to better understand whether any discriminatory behaviour with respect to pay is present in one given organisation. The model is a tool that can point to a potential problem but cannot unequivocally determine whether there is outright discrimination. As a result, it is necessary that once the tool indicates to the NCPE that there is discriminatory treatment within an organisation, it should investigate each separate case further and find the root cause behind said discrimination, also utilising the data obtained through the use of the tool.

6.2 Improvement of the Tool

6.2.1 Assessment and Re-Assessment of the Tool

It is recommended that the tool is systematically revised in a structured manner. Continuously analysing the tool's outcomes and the user's approach towards the tool could further support the revision for future versions of the tool. The continual assessment and reassessment of the data collected and of the usability of the tool will allow changes to be affected at regular intervals, ensuring that the tool continues to achieve the result it set out to attain at its inception.

6.2.2 Further Research

A key factor to ensure the tool's constant improvement is to systematically conduct further research, both of the most recent literature in the field and of other European Equal Pay Tools. With the emergence of new research, the tool may be modified and further improved. It will also always be important to ensure that whatever modifications are made to the tool going forward, these are contextualised to Malta's local business landscape.

7. Conclusion

The main purpose of this study was to develop the technical specifications for an Equal Pay Tool for Malta, developed around the concept of Equal Pay for Work of Equal Value in the same organisation. This report contains an exhaustive literature review, the methodology and approach used to conduct the research study, the results obtained and the analysis carried out, the technical specifications that are to serve as the blueprint for the development of the equal pay tool, and KPMG's recommendations, based on the work and findings of this research study.

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9. Appendix

9.1 Questionnaire for equal pay tool - operators

Section 1:
ABOUT YOUR EPT:

1. Does your Equal Pay Tool consider Equal Work for Equal Pay between women and men, or Equal Pay for Work of Equal Value between women and men (defined below)?

    *   Equal Work for Equal Pay between women and men – Equal pay for equal work limits the application of the equal pay principle to work undertaken by two individuals in the same area of activity and in the same enterprise.

    *   Equal Pay for Work of Equal Value between women and men – The concept of equal remuneration for work of equal value is broader and encompasses cases where women and men do different work. When men and women perform work that is different in content, involving different responsibilities, requiring different skills or qualifications, and is performed under different conditions, but is overall of equal value, they should receive equal remuneration.

2. Is your equal pay tool appropriate for organisations of all sizes, including organisations employing a small number of people (For example an organisation employing less than 10 people)?

3. Do you feel that a tool similar to yours would be suitable in the context of Malta given that:

    *   97% of business employ less than 10 employees.

    *   Only 0.5% of business employ 50 employees or more.

4. In your view, what legislative framework if any, is necessary for the effective application of an Equal Pay Tool?

5. In your experience is the use of the Equal Pay Tools supported by stakeholders such as employers and social partners?

    *   How is conflict between stakeholders, or resistance to the use of the Equal Pay Tool best addressed?

6. Have you noticed any particular constraints or limitations in your Equal Pay Tool?

    *   If yes, could you please expand upon these?

7. What are the key challenges encountered in the implementation of equal pay tool/s in your jurisdiction, and how are these challenges overcome? In particular, have any of the following issues ever presented difficulties:

    *   Lack of cooperation from employers

    *   Poor quality of data submitted

    *   Inconclusive results with respect to the gender pay gap

    *   Cumbersome task of filling in data

8. How do you incentivise employers to make use of your tool?

Section 2:

1. Is your Equal Pay Tool able to provide meaningful data and results in a situation where statistically significant results cannot be obtained?

   • If yes, what methodologies are used to obtain these results?

   • If no, do you feel that this limitation hinders the relevance of your tool to smaller businesses which may not have sufficient employees to generate statistically significant results?

Section 3:
THE 6 PILLARS OF WORK VALUE:

1. Do you feel that the following six criteria, and the relevant sub-criteria adequately capture all the determinants of work value?

   • Personal Background

      - Relevant Academic background (Formal academic qualifications)

      - Relevant Professional experience (Length of experience in similar or relevant roles)

      - Relevant Technical knowledge

   • Task Difficulty

      - Nature and variety of tasks, or methods related to occupation

      - Level of innovation involved

      - Level of analytical skills required for problem solving

      - Degree of autonomy

      - To what extent is the work routine based?

      - Creativity involved in the job.

   • Influence

      - Extent of involvement in the organisation's decision-making process

      - Extent of involvement in routine versus strategic decision-making

   - Degree of impact of work on the organisation

   • Interactions

      - Extent and nature of cross-departmental interaction

      - Extent and nature of contact with internal or external customers

   • Supervision

      - Does the work involve designing and implementing strategy i.e. strategic decision making? Or is it a management role where strategy is executed only?

      - Extent of operational supervision or team management

      - Extent of coordination of resources

      - Number of people managed

   • Job risk

      - Level of physical effort required on a day-to-day basis

      - Level of risk and exposure to potential dangers during normal working conditions

2. To what extent do you feel the following factors also impact work value, in addition to the 6- Pillar Framework described above:

   • Soft skills (such as emotional intelligence, and communication skills not captured in the 6-pillar framework)

   • Frequency of on-the-job-training

   • Conceptual skills (such as overall industry knowledge, and problem solving skills)

3. Please suggest appropriate weightings for each of the 6 pillars - Personal background, Task difficulty, Influence, Interaction, Supervision, Job risk.

4. Do you feel that the descriptions assigned to each level of each of the six pillars are appropriate?

   • Is there scope to increase the granular level of detail? I.e. Include additional levels in between the existing ones?

5. What data collection mechanism would be most suitable for this type of questionnaire: Self-reporting by employees, or Central reporting by Head of HR / CFO? Consider the following issues:

   • Ability of employees at all levels to comprehend the questionnaire and recognise where their job fits in to the overall framework.

   • Risk of employees overstating the extent of their occupational responsibilities.

   • Risk of a central respondent lacking sufficient awareness of the day-to-day nature of others' jobs to be able to accurately report for all members of staff.

   • Risk of potential differences in evaluation of self-worth by different cohorts. I.e. could different groups carrying out highly similar tasks, provide substantially different responses based on their own self-evaluation?

   • Risk of one respondent having a burden of responding to all questions, especially in the case of big companies

6. What assistance measures should be offered to assist respondents?

   • Hotline / support email

   • Meetings / Sessions with representatives from organisations to determine how roles within that organisation generally fit into each pillar

   • Financial aid

   • Other solutions

9.2 Questionnaire for equal pay tool – For employers and unions

The 6 Pillars of Work Value

1. How would you define 'value of work'? What would be the main determinants of work value in your opinion as an employer/ trade union?

2. Do you feel that the following six criteria, and the relevant sub-criteria adequately capture all the determinants of work value?

• Personal background,

   - Relevant Academic background (Formal academic qualifications)

   - Relevant Professional experience (Length of experience in similar or relevant roles)

   - Relevant Technical knowledge

• Task Difficulty

   - Nature and variety of tasks, or methods related to occupation

   - Level of innovation involved

   - Level of analytical skills required for problem solving

   - Degree of autonomy

   - To what extent the work is routine based?

   - Creativity involved in the job.

• Influence

   - Extent of involvement in the organisation's decision-making process

   - Extent of involvement in routine versus strategic decision-making

   - Degree of impact of work on the organisation

• Interactions

   - Extent and nature of cross-departmental interaction

   - Extent and nature of contact with internal or external customers

• Supervision

   - Does the work involve designing and implementing strategy i.e. strategic decision making? Or is it a management role where strategy is executed only?

   - Extent of operational supervision or team management

   - Extent of coordination of resources

   - Number of people managed

- Job Risk
  - Level of physical effort required on a day-to-day basis
  - Level of risk and exposure to potential dangers during normal working conditions

3. To what extent do you feel the following factors also impact work value, in addition to the 6- Pillar Framework described above:

   - Soft skills (such as emotional intelligence, and communication skills not captured in the 6-pillar framework)

   - Frequency of on-the-job-training

4. Conceptual skills (such as overall industry knowledge, and problem-solving skills)

5. For which of the following fields could you comfortably retrieve the necessary data (indicate as many fields as necessary):

   - Annual Gross Salary (including bonuses and overtime) – Euro amount for the previous full calendar year

   - Gender - (Male / Female)

   - Working time – Full-time/ Part-time / Reduced from a full-time basis (specify number of hours)

   - Actual number of hours worked in a year

   - Qualifications

   - Age

   - Tenure

   - Designation

   - Employee job levels from CEO to admin etc

6. Please suggest appropriate weightings for each criterion.

7. Do you feel that the descriptions assigned to each level of each of the six pillars are appropriate?

   - Is there scope to increase the granular level of detail? I.e. Include additional levels in between the existing ones?

8. Do you feel that the information required would be easily available to employers?

9. Do you feel that the description of each level for each pillar is suitably detailed while still being generic enough to apply to a broad range of jobs?

10. Do you think descriptions that are too vague risk creating inconsistent results?

11. What data collection mechanism would be most suitable for this type of questionnaire: Self-reporting by employees, or Central reporting by Head of HR / CFO? Consider the following issues:

    - Ability of employees at all levels to comprehend the questionnaire and recognise where their job fits in to the overall framework.

    - Risk of employees overstating the extent of their occupational responsibilities.

    - Risk of a central respondent lacking sufficient awareness of the day-to-day nature of others' jobs to be able to accurately report for all members of staff.

    - Risk of one respondent having a burden of responding to all questions, especially in the case of big companies

12. Risk of potential differences in evaluation of self-worth by different cohorts. I.e. could different groups carrying out highly similar tasks, provide substantially different responses based on their own self-evaluation? Should employee responses to this survey be subject to internal review?

    - Could this help avoid intentional/ unintentional over/under statement of value of work?

    - Could this be abused by upper management to justify discrimination or lower wages? Who should review submissions by senior management?

13. Would you utilise an equal pay tool?

    Yes   No

    Why?

14. What assistance measures should be offered to assist respondents?

    - Hotline / support email

    - Meetings / Sessions with representatives from organisations to determine how roles within that organisation generally fit into each pillar

    - Financial aid

    - Other solutions

9.3 MQF Levels

MQF Levels dropdown list must include the following: [18]

8	Doctoral Degree
7	Master's Degree Post-graduate Diploma Post-graduate Certificate
6	Bachelor's Degree

5	Undergraduate Diploma Undergraduate Certificate	VET Higher Diploma Foundation Degree
4	Matriculation Certificate Advanced Level Intermediate Level	VET Diploma (iv)
3	General Education SEC Grade 1-5	VET Level 3 (iii)
2	General Education Level 2 SEC Grade 6-7	VET Level 2 (ii)
1	General Education Level 1 School Leaving Certificate	VET Level 1 (i)

B	Introductory Level B*
A	Introductory Level A*

These are not yet includedin legislation

Annotations

i. A Full VET Level 1 qualification should enjoy the same parity of esteem as a Full Secondary School Certificate and Profile (SSCE,P) Level 1.

ii. A Full VET Level 2 qualification should enjoy the same parity of esteem as 4 Secondary Education Certificate (SEC subjects at Grade 6 and 7.

iii. VET Levet 3 Qualification should enjoy the same parity of esteem as 6 Secondary Education Certificate (SEC) subjects at Grades 1 to 5.

iv. A VET Diploma should enjoy the same parity of esteem as the Matriculation Certificate.

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18 https://ncfhe.gov.mt/en/Pages/MQF.aspx

9.4 List of Sectors

For a detailed description on the below sectors, refer to the Eurostat NACE Rev. 2[19].

Agriculture, forestry and fishing
Manufacturing, mining and quarrying and other industry
Construction
Wholesale and retail trade, transportation and storage, accommodation and food service activities
Information and communication
Financial and insurance activities
Real estate activities
Professional, scientific, technical, administration and support service activities
Public administration, defense, education, human health and social work activities
Other services

Table 28: Eurostat NACE economic sectors

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19 https://ec.europa.eu/eurostat/documents/3859598/5902521/KS-RA-07-015-EN.PDF

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