

# 8 Estimating the drivers of success

## 8.1 Data and estimation issues

According to Parker (2004) the following estimation problems might arise in entrepreneurial research: 1) sample selection bias, 2) heteroskedasticity, 3) endogeneity, and 4) non-stationarity. Except for the last problem, which is not applicable in cross-sectional analysis, it is highly likely that these issues are also present in our data, and hence should be considered.

### 8.1.1 Sample selection

The data was obtained via sponsorship of various professional organizations (see Table 45). These organizations promoted the participation of their members and sent their members an email link of the web survey. This way of gathering data implies that there might be an overrepresentation in the data of individuals, who are members of professional organizations. However, this effect is somewhat mitigated by the large number of respondents, who copied the web link of the questionnaire, forwarding the link to their friends and colleagues. Moreover, there were some internet-sites that target independent professionals who somehow promoted the survey voluntarily, and put the link of the questionnaire high up on their internet pages. All in all less than 50% (42.6%) of the respondents are members of a professional organization.

**Table 45: Suppliers of respondents**

Source	Percentage
Word of mouth	41.2%
Workers union (FNV Zelfstandigen)	16.8%
Entrepreneurial organization (PZO)	9.7%
Professional Organization of Coaches (NOBCO)	8.3%
VNU Media (Intermediair, In Interim, et cetera)	7.7%
Professional Organization of Management Consultants (OOA)	7.4%
Various Employment Agencies	4.3%
Found the link on the internet	4.2%
Professional Organization of Journalists (FLA)	4.1%
Professional Organization of Trainers (NVO2)	2.7%
Professional Organization of Marketing Professionals (VEA)	0.3%
Professional Organization of Interim Managers (ORM)	0.2%

There is also the distinct possibility that some professions were more eager to respond than other professions, leading to an overrepresentation of specific professions. For example, it proved hard to motivate freelance artists (e.g. actors, designers, and sculptors), and freelance media

professionals to fill in the questionnaire. Professional organizations of these professions did not react to any of our emails and telephone calls which asked for cooperation, and the number of these freelancers, who did participate through friends or general professional organizations (i.e. FNV and PZO) is rather low. In contrast the freelance (career) coaches and trainers were very enthusiastic to participate, which might have led to some overrepresentation on their side.

Information was collected on the membership of the two general entrepreneurial associations (FNV Zelfstandigen and PZO) to compare their demographic characteristics with the demographic characteristics of the respondents. It is a bit of a misfortune that PZO has no demographic figures on their membership. When comparing the respondents with the FNV in Table 46, it is clear that: 1) there are more women among our respondents, 2) the average educational level of our respondents is higher, and 3) more respondents work in professional services. All these differences reflect the fact that the membership of FNV Zelfstandigen consists of entrepreneurs without personnel, thus including retailers, wholesale traders, and transport entrepreneurs, but excluding some professions for which other FNV trade unions exist (such as journalists and artists). The observed differences can therefore be attributed to the fact that this study targets a slightly different group than the FNV does.

**Table 46: Compare sample with FNV Zelfstandigen**

Characteristic	FNV (2008)	Our sample (2008)
Gender	72% male	50% male
Age (mean)	45.1	46.1
Education	69% higher education	83% higher education
Professions	54% professional services	100% professional services

We also had detailed information of the demographic constituency of freelance journalists from a previous academic study in The Netherlands (Ijdens and van der Werf, 2004). When the demographics of our sample of journalists are compared to the constituency of the earlier study in Table 47, the demographic characteristics of both populations seem very alike. Only on one element the demographics differ: Our sample includes much more women than their sample, reflecting the fact that the study of Ijdens et al. aimed for members of both FLA and NVJ.

**Table 47: Compare journalist sample with FLA**

Characteristic	Ijdens et al. (2004)	Our sample (journalists, 2008)
Gender	55% male	27% male
Age (mean)	43.0	44.6
Education	44% HBO / 41% University	43% HBO / 43% University
Fee per hour	59 euro per hour	65 euro per hour
Revenue	€ 38.700 (2002)	€ 42.300 (2006/2007)

### 8.1.2 Self-selection

Self-selection is a potential issue in all research. Firstly, not all individuals become independent professionals. In particular, those individuals who expect to do well as freelancers will opt for a freelance career. Unfortunately, within the scope of this thesis no direct comparison is possible between employees and freelancers, but we can compare our personality test results with the results of the same tests performed in earlier studies on employees. In Table 48, the average test score of our respondents are compared with those of Eby (2003) and Seibert, Kramer and Crant (2001). Our personality test results are in line with their findings, although our career insight score seems a little bit on the low side. This suggests that the measured freelancers' personality characteristics are not that different from employees.

**Table 48: Comparing personality traits of sample with other studies**

Mean score of Psychological trait*	Pro-activeness	Openness	Career Insight	Career Satisfaction
Our sample (2008)	3.80	3.91	3.60	3.81
Eby (2003)	3.83	3.89	4.21	3.91
Seibert, Kraimer and Crant (2001)	3.71	N.A.	N.A.	3.78

\* mean score based on a 1-5 Likert scale

There is another way to assess personality bias. That is through survivorship bias. If a certain personality trait is “what it takes” to be a freelancer, one would expect that individuals who score low on that trait will not start a freelance career, but if they do, they would disappear quickly from the sample of freelancers. These unfit individuals may start a freelance career but, lacking success, they will quickly go back to a traditional employment relationship. Therefore, one expects that individuals with many years of freelance experience show the preferred personality for such a career.

**Table 49: Freelance experience and personality**

Freelance Experience	Pro-activeness	Openness	Career Insight
0 - 6 months	19.60	22.14	22.65
7 - 12 months	19.23	22.18	22.50
1 - 2 years	19.15	21.95	22.19
3 - 5 years	18.96	22.02	21.99
6 - 10 years	18.84	21.65	21.17
11 - 15 years	19.03	21.89	21.51
16 - 20 years	19.32	21.81	21.89
21 years or more	17.90	21.03	20.02

However, the hypothesis of a positive relationship between freelance experience and the desirable personality traits (pro-activeness, openness and career insight) is not supported by the data in

Table 49. All the relationships between freelance experience and the three desirable personality traits are even negative. This might be explained by an age or a generation effect. Nonetheless, evidence of personality survivorship bias is lacking.

### **8.1.3 Dropout analysis**

There is always the possibility that some participants do not want to respond to difficult questions. Therefore, a response analysis was done. More than 80 percent of all respondents who already started answering the questions in the survey, fully completed all questions in the survey. The corresponding drop-out percentage (18.7%) was thus very low. This can be partly explained by the brevity of the survey (most respondents completed the survey within 10 minutes), the clarity of the Q&A process (e.g. information on percentage completed was indicated on every page of the survey), and the information that was sent upfront to respondents on the goal of the survey and the amount of time needed.

From Figure 27 it is visible that the questions with most dropouts were:

1. The complex personality test questions (#21, #22 and #23) on openness, pro-activeness and, career insight with a total drop-out percentage of 3.8%.
2. The questions on profession (#5) and industry specialization (#6) with a 3.0% dropout rate.
3. Question #31 on the number of hours worked (total and on various areas such as networking, administration, et cetera) with a drop-out percentage of 2.9%.

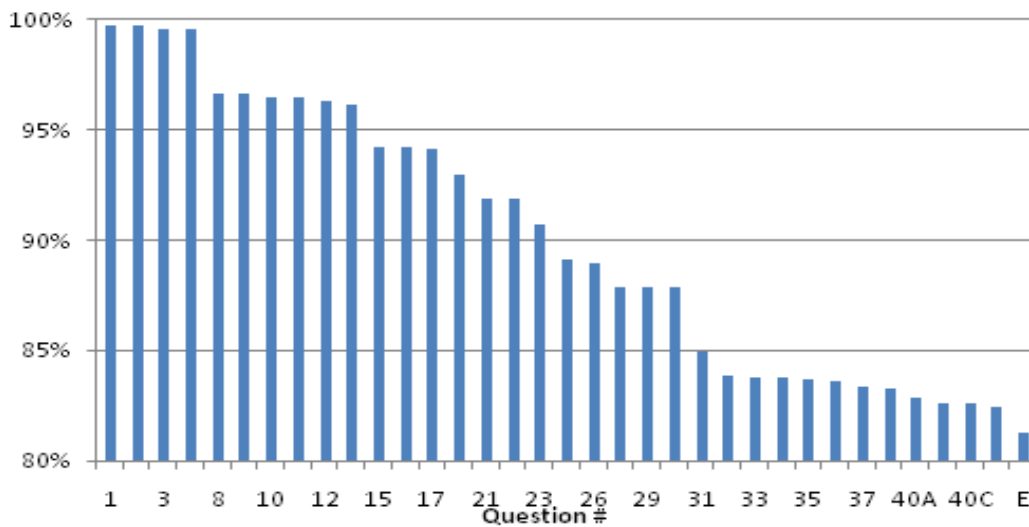
Remarkably, the revenue questions (#38, #39) saw a very low percentage of dropouts (only 9 dropouts or 0.5%).

Looking at all the questions, it seems that one of the most important reasons for individuals to end the survey prematurely is the complexity of the question, and not so much the subject of the question. Moreover, the demographic characteristics of the dropout respondents were analyzed. This information was readily available as the demographic questions were the first 5 to 6 questions of the survey. This gives the following demographic information on the dropouts:

1. Dropout age: 46.7 years. This is somewhat higher than the overall average of 46.1 years
2. Dropout gender: 53.2 percent men, 46.8 percent women. The overall distribution is 50.1 percent men and 49.9 percent women, implying that slightly more men dropped out of the survey.
3. Dropout education: HBO: 45.6 percent, University: 38.9 percent. The overall percentages

are HBO: 41.1 percent, University: 44.3 percent. Thus somewhat more HBO educated professionals dropped out.

**Figure 27: Survey complete percentage**



All these differences are minor. This leads to the conclusion that there is no evidence of severe distortion in the data, as a result of persons dropping out of the questionnaire. The dropouts have roughly the same demographic characteristics as the respondents, and ‘difficult’ questions on fees and revenue were not avoided.

### 8.1.4 Heteroskedasticity

One of the potential problems of research into entrepreneurs is heteroskedasticity. The term means "differing variance" and comes from the Greek "hetero" (different) and "skedastios" (dispersion). The Breusch-Pagan test was used to check for heteroskedasticity on objective freelance career success. The squared OLS residuals (of the revenue equation) proved to be related to the following 5 variables: 1) other income, 2) experience as a freelancer, 3) subjective career success, 4) career insight, and 5) pro-activeness.

**Table 50: Variance of revenue for individuals with and without other sources of income**

Other sources of income	Log Revenue	
	Mean	Variance
No other income	10.99	1.01
Yes, other sources of income	10.08	1.67

There are excellent theoretical grounds to expect heteroskedasticity for most of these variables. Firstly, as can be seen in Table 50, the variance of respondents, who have another source of income (e.g. a regular job), is higher than the variance of respondents without another source of income. Within the first group there are individuals who are dependent on freelancing for their

livelihood, but there are also individuals who are not dependent on freelancing for their livelihood, but are only engaging in freelancing to improve their income levels. Therefore, the variance in the first group is higher.

It is also logical for freelancers with more freelance experience to have lower levels of revenue variance, as can be seen in Table 51, as these freelancers have proved themselves in one way or another. They have shown that they can be successful, and they are probably committed to their profession. The group of freelancers with limited freelance experience (less than two years) probably also contains some ‘adventurers’. These are individuals who try to pursue a career as a freelancer before they discover that they do not have the right proposition, contacts or personality. After a certain period (perhaps 1-2 years) these freelancers will not survive and will go back to a regular job or a social security allowance.

**Table 51: Variance of revenue and freelance experience**

Freelance Experience	Log Revenue	
	Mean	Variance
0 – 6 months	10.33	1.75
7 - 12 months	10.53	1.65
1 – 2 years	10.77	1.44
3 – 5 years	10.84	1.20
6 - 10 years	10.98	0.99
11 - 15 years	10.99	1.06
16 - 20 years	10.82	0.95
21 years or more	10.49	1.35

Table 52 shows that the variance of revenue is linear and negatively related to subjective career success. If you earn a lot, you almost automatically consider yourself to be successful. If you do not earn a lot, you may consider yourself to be successful or not. It is much harder to find arguments for the positive impact on variance of career insight and pro-activeness. It seems to mean that individuals who score high on these traits have a higher probability to be either very successful or very unsuccessful. This may be contingent on some unknown factor. It may also be that the causality is the other way round. For example, it may be the case that very unsuccessful and very successful freelancers have more insight in their career than ‘mediocre’ freelancers.

There are two preferred solutions for heteroskedasticity: 1) use a different specification for the model (e.g. use non-linear transformations of the independent variables), or 2) apply an estimation method (e.g. Generalized Least Squares, Maximum Likelihood) with robust variance estimators (e.g. White).

**Table 52: Variance of revenue and career satisfaction**

Subjective Career Success	Log Revenue	
	Mean	Variance
Score 6 – 12	9.53	1.79
Score 13 – 18	9.88	1.94
Score 19 – 24	10.04	1.31
Score 25 – 30	10.49	1.50
Score 31 – 36	10.95	0.99
Score 37 – 42	11.15	0.89

### 8.1.5 Common method variance

Common method variance (CMV) has been a major problem in organizational research based on self-reports (see Podsakoff and Organ, 1986; Spector, 2006). To overcome these problems the procedural remedies suggested by Podsakoff and Organ (2003) were adopted. The respondents were assured of anonymity and confidentiality, and were asked to be as honestly as possible. Individuals were assured that right and wrong answers did not exist. Also the fact that the survey was sponsored by various professional organizations that were all considered very trustworthy decreased the tendency of respondents to give socially desirable answers. Moreover, the fact that all respondents received a benchmark report on their position, in relation to other independent professionals, motivated respondents to give the ‘true’ score, as they were anxious to see how they performed within their peer group of freelancers. Giving the wrong answers would distort their own report. Two test versions of the survey were used to ensure that all questions were clear and easy to answer, and that ambiguous and vague terms were not present. The survey tool further facilitated various methods to prevent CMV, such as: random orders of questions to disrupt the flow of questions, the use of various types of scales, and clear information on the survey completion process to prevent boredom.

To investigate whether, despite all the preventive measures, CMV was a problem in the data a single factor test was conducted. On the overall data there is no evidence that CMV is a persuasive problem. The factor with the largest eigenvalue explained less than 8% of total variance, and more than 20 factors had eigenvalues above one.

### 8.1.6 Reliability of test scores

In our study 6 composite tests were used. These tests consisted of various questions. All these tests are well known, and often used in organization science. Using Cronbach’s alpha and factor analysis, the internal consistency of the tests was checked. It can be seen in Table 53 that all tests are reliable with satisfactory Cronbach alpha’s ( $\alpha > 0.7$ ), and all tests have only one factor with an eigenvalue above one.

**Table 53: Reliability of test scores**

Test	Questions	Cronbach $\alpha$	# Factors	% Var. Factor 1
<i>Partner Support</i>	4	0.820	1 (2.63)	65.7 %
<i>Openness</i>	4	0.803	1 (2.51)	62.9 %
<i>Pro-activeness</i>	5	0.762	1 (2.59)	51.8 %
<i>Career Insight</i>	6	0.759	1 (2.75)	45.9 %
<i>Subjective Career Success</i>	6	0.873	1 (3.75)	62.4 %
<i>Network Activity Score</i>	5	0.751	1 (2.51)	50.6 %

### 8.1.7 Data reduction

In the survey a large number of questions were posed to respondents (in total 99 questions, see appendix). To be able to estimate objective and subjective career success and to be able to include all the underlying factors, data reduction was necessary. For every cluster of independent variables (i.e. human capital, social capital, personality capital, motivational, and strategy capital) a factor analysis was performed on all variables in each cluster, in order to reduce data complexity (see the appendix for more information on the various factor analyses).

#### *Human Capital*

Multicollinearity was not a problem in our dataset (with very low correlations and all VIF-scores lower than 1.6) with one exception: the collinearity between age, year of graduation and total work experience. That is why total work experience and year of graduation were excluded from the list of **human capital** variables (age was kept as an independent variable). From the factor analysis on the human capital variables 3 clear factors resulted: 1) a freelance experience factor, 2) an education factor, and 3) a recent training factor. Based on the results of the factor analysis the following four variables were subsequently chosen as the preferred measures for human capital:

1. Total Freelance Experience.
2. Obtained Higher Professional Education (HBO).
3. Obtained University Education.
4. Total Recent Training (the sum of training in core professional, new professional and supporting and adjacent skills).

#### *Social Capital*

In the survey 18 variables were obtained to measure social capital. Not only network size was measured, but also the total number of weak and strong links, the number of persons new in the network (refreshment), and the seniority or quality of the network. A factor analysis was performed on all 18 variables, resulting in five clear social capital factors:

1. Network Activity Score (consisted of all five network activity measures).
2. Partner Support Score (consisted of all four partner support measures).

3. Size of Network (consisted of all network size measures).
4. Membership of a Business Club (e.g. Lions, Rotary).
5. Managing Employment Agencies.

Although the Cronbach alpha analysis of all tests indicated strong internal reliability, it was nevertheless decided to use all underlying questions in the factor analysis. In the factor analysis the original tests came out as separate variables. That is why a second factor analysis was performed without the network activity and partner support questions. This resulted in 3 clear factors (Size of Network, Business Club Membership, and Managing Employment Agencies), to which the sum of the scores of the network activity, and partner support tests were added. This resulted in the 5 variables mentioned above.

#### *Personality Capital*

In total 15 personality questions were asked in the survey (4 on openness, 5 on pro-activity and 6 on career insight). From the factor analysis the 3 personality tests emerged as specific factors, thus the original test scores were used instead of factors:

1. Career Insight.
2. Openness to New Experience.
3. Pro-active Personality.

#### *Motivation*

Respondents were additionally asked about their motivation to freelance (why are they freelancing), the major disadvantages of freelancing, and their long term ambition. To limit the number of factors only the 8 motivational variables were used in a factor analysis, the disadvantages of freelancing, and long term ambition were excluded from our variable list. From this factor analysis on motivational capital three factors emerged:

1. Motivated by Work-Life Balance and Flexibility.
2. Motivated by Professionalism and Autonomy.
3. Motivated by Challenge, Variety and Money.

It was quite interesting that from the factor analysis the above distinct freelance motivations came into sight; a group of freelancers who are preliminary motivated by work-life balance and

flexibility, a second group who are motivated by professionalism and autonomy, and a third group who are motivated by challenge, variety and money.<sup>20</sup>

### *Strategy Capital*

To determine the strategy factors eleven strategy variables were used. This consisted of variables on strategy, industry expertise, authority and marketing mix. Further, a JAT profession score was calculated based on the number of professions a freelancer puts into practice, as some freelancers are interim manager, coach, trainer, and management consultant. Based on the factor analysis the following four strategy factors emerged:

1. Innovation or Differentiation.
2. Industry Specialization.
3. Broad Product Range.
4. Better Service or Low Cost.

### *Control variables*

The control variables that were used in this study are gender, geographic location and health status. Several other variables that are available in the survey were not used to estimate career success (e.g. percentage of freelance income of total income, size of the financial buffer in months), as they are endogenous to freelance income. Age and age squared were used to get a feel for the parabolic relationship of age and freelance revenue. Subjective career success was included in the objective career success equation, and vice versa to estimate the relationship between objective and subjective success.

Some of the variables in the equation might be endogenous to career success. For instance network size can explain career success, but it can also be the case that freelancers with a more successful career have a larger network, because of this successfulness. Freelance experience is another example where freelance experience might be a consequence rather than a cause of success. Training participation is the other way round as is discussed earlier. A freelancer trains more when the freelancer is not successful. The most obvious example of a variable which is endogenous, is subjective career success. Does monetary revenue cause career satisfaction or are satisfied freelancers more likely to earn more money?

---

<sup>20</sup> Looking at the various professions, the journalists were often motivated by work-life balance and flexibility, the trainers and coaches by professionalism and autonomy, and the technical professions and interim managers by challenge and money.

## 8.2 Estimating objective freelance career success

Objective success was measured using freelance revenue, as this is the richest measure that was available. Revenue was calculated by multiplying the number of invoiced hours (or days) per year by the average net fee per hour (or day). As the revenue distribution was skewed, the natural logarithm was taken, as our dependent variable for objective career success.

**Table 54: Estimating objective career success (OLS)**

Factor	Coefficient	Std. Error	t-Statistic
Constant	6.980609	0.6505804	10.73**
Age	0.0812761	0.0253211	3.21**
Age Squared	-0.0009651	0.0002695	-3.58**
Gender (Male = 1)	0.4200948	0.056085	7.49**
Health (Self Assessment score)	0.0472644	0.028403	1.66†
Living In Randstad Area (Randstad = 1)	0.0799059	0.0481182	1.66†
Receiving Other Income (e.g. regular job)	-0.589795	0.0591547	-9.97**
Interim manager (dummy)	0.402606	0.0630237	6.39**
Interim professional (dummy)	0.1432689	0.0585236	2.45*
Journalist or Media Professional (dummy)	-0.3227554	0.0772892	-4.18**
Technical Professional (dummy)	0.1039439	0.1063933	0.98
Trainer or Coach (dummy)	-0.2152659	0.0573688	-3.75**
Other Free Agent (dummy)	-0.461215	0.0820719	-5.62**
University Education (dummy)	0.3556629	0.0744063	4.78**
HBO Education (dummy)	0.1380998	0.072906	1.89†
Freelance experience (log)	0.1622809	0.0210346	7.71**
Recent training participation (sum)	-0.0073522	0.0023691	-3.1**
Motivated by Autonomy and Professionalism	0.0415792	0.0246565	1.69†
Motivated by Challenge and Money	0.0196196	0.0242925	0.81
Motivated by Work-life Balance and Flexibility	-0.0535313	0.0242788	-2.2*
Insight in Career (sum)	-0.0042271	0.0070973	-0.60
Open Personality (sum)	-0.0034226	0.0071	-0.48
Pro-active Personality (sum)	-0.0149058	0.0091706	-1.63
Business Club Member (factor)	0.0149219	0.0247465	0.60
Managing the Agent (factor)	0.0838912	0.0273984	3.06**
Size of Network (factor)	0.0338625	0.0266946	1.27
Network activity (sum)	0.029306	0.007434	3.94**
Partner Support (sum)	0.0018221	0.0062038	0.29
Better service or low cost strategy (factor)	-0.0101224	0.0239645	-0.42
Innovative and different strategy (factor)	0.02476	0.0283124	0.87
Industry specialization strategy (factor)	0.0562731	0.024685	2.28*
Broad product range (factor)	-0.0468089	0.0245026	-1.91†
Subjective Career Success (sum)	0.0441134	0.004123	10.7**
<b>Adjusted R-squared</b>	<b>0.4393</b>	<b>Est. Method</b>	<b>OLS</b>
<b>F-statistic</b>	<b>34.89</b>	<b>Observations (n)</b>	<b>1385</b>

† = significant at 10% level, \* = significant at 5% level, \*\* = significant at 1% level

Ordinary least squares was the first estimation method used. Table 54 below gives the estimates of coefficients, standard errors and resulting t-statistics. It is clear that most of the variables in

our model predict objective career success (i.e. revenue). The adjusted R-squared is approximately 0.44, which is very satisfactory given the results of other studies on entrepreneurial earnings (e.g. Block and Wagner, 2006).

**Table 55: Estimating objective career success (ML)**

<i>Factor</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>z-statistic</i>
Constant	6.980609	0.7493958	9.31**
Age	0.0812761	0.0286227	2.84**
Age Squared	-0.0009651	0.0003046	-3.17**
Gender (Male = 1)	0.4200948	0.0580151	7.24**
Health (Self Assessment score)	0.0472644	0.0286808	1.65†
Living In Randstad Area (Randstad = 1)	0.0799059	0.0480397	1.66†
Receiving Other Income (e.g. regular job)	-0.589795	0.0666048	-8.86**
Interim manager (dummy)	0.402606	0.0606881	6.63**
Interim professional (dummy)	0.1432689	0.0589014	2.43*
Journalist or Media Professional (dummy)	-0.3227554	0.0780846	-4.13**
Technical Professional (dummy)	0.1039439	0.1071783	0.97
Trainer or Coach (dummy)	-0.2152659	0.0572763	-3.76**
Other Free Agent (dummy)	-0.461215	0.0811657	-5.68**
University Education (dummy)	0.3556629	0.0790103	4.50**
HBO Education (dummy)	0.1380998	0.0805207	1.72†
Freelance experience (log)	0.1622809	0.0229957	7.06**
Recent training participation (sum)	-0.0073522	0.0025106	-2.93**
Motivated by Autonomy and Professionalism	0.0415792	0.0244645	1.70†
Motivated by Challenge and Money	0.0196196	0.0237121	0.83
Motivated by Work-life Balance and Flexibility	-0.0535313	0.0235548	-2.27*
Insight in Career (sum)	-0.0042271	0.0074761	-0.57
Open Personality (sum)	-0.0034226	0.0070108	-0.49
Pro-active Personality (sum)	-0.0149058	0.0092242	-1.62
Business Club Member (factor)	0.0149219	0.024884	0.60
Managing the Agent (factor)	0.0838912	0.0248262	3.38**
Size of Network (factor)	0.0338625	0.0267804	1.26
Network activity (sum)	0.029306	0.0074711	3.92**
Partner Support (sum)	0.0018221	0.0058532	0.31
Better service or low cost strategy (factor)	-0.0101224	0.0236016	-0.43
Innovative and different strategy (factor)	0.02476	0.0282662	0.88
Industry specialization strategy (factor)	0.0562731	0.0235155	2.39*
Broad product range (factor)	-0.0468089	0.0247748	-1.89†
Subjective Career Success (sum)	0.0441134	0.004511	9.78**
<b>Log likelihood</b>	<b>-1754.97</b>	<b>Est. Method</b>	<b>ML (robust)</b>
<b>AIC</b>	<b>2.581907</b>	<b>Observations (n)</b>	<b>1385</b>

† = significant at 10% level, \* = significant at 5% level, \*\* = significant at 1% level

Most **control**, **market** and **human capital** variables are significant, and have the expected hypothesized sign. The only great exception within the human capital variables is the relationship between recent training effort and objective career success. A positive relation between recent training (defined as training effort in the last two years) and revenue was expected. But a strong negative relationship was found. This leads us to ponder on causality. The link between revenue

and training effort might be the other way round for two reasons. Firstly, if one engages in training, one cannot charge clients for services. Secondly, it is likely that independent professionals without a current assignment have more spare time to invest in training.

Regarding **personality capital**, it is noteworthy that none of the personality capital variables is significant. Career insight (e.g. what are your career goals, how do you reach them, which assignments do you need to accept and which do you need to refuse), an open personality, and an pro-active personality are not related to objective career success. But **motivational capital** is important; freelancers who started freelancing, because of flexibility and/or work-life balance motives, have lower revenue than professionals who started freelancing for other reasons. Concerning **social capital**, it is remarkable that partner support is not related at all to objective career success. Two social capital variables proved to be significant: managing the agent and the network activity score of Forret and Dougherty (2001). Actively managing employment agencies (i.e. being registered with employment agencies and actively visiting them) adds to the objective success of independent professionals. The positive and significant score on network activity suggests that it is important to be an active networker. Calling people, visiting business contacts, handing out business cards and sending mails, cards and gifts to individuals in the network, are important. The size of the network and whether an individual is a member of a business club or network, do not add any revenue.<sup>21</sup>

Most of the potential **business strategies** do not add any revenue to the independent professional, but industry specialization does. Freelancers who focus on a single industry or client, have higher revenues.

As said, one of the disadvantages of OLS is that it does not handle heteroskedasticity very well. Although heteroskedasticity does not cause OLS coefficient estimates to be biased, the variance of the coefficients tends to be underestimated, inflating t-scores and making insignificant variables appear to be statistically significant. Therefore we estimated our success model, also using generalized least squares (GLS) and maximum likelihood (ML) estimators with robust variance estimators. These results of our ML are visible in Table 55, but are very comparable to our OLS results.<sup>22</sup>

---

<sup>21</sup> The objective career success equation was also estimated for all freelancers, disregarding the fact whether they had a partner or not. The results were very comparable, although the overall significance levels are higher in for all freelancers due to the 200 extra observations.

<sup>22</sup> Besides OLS/GLS and ML estimators, also other estimators such as IV (2SLS) and GMM were used. The results proved to be robust so the results of these estimators are not given in this thesis.

### 8.3 Estimating subjective freelance career success

In this section subjective freelance career success is estimated instead of objective freelance career success, using the same model structure and the same estimation techniques. Looking at the results in Tables 56 and 57, it is striking that most of the variables that are strongly significant in the objective freelance career success equation seem not to be important at all in determining subjective freelance career success.

**Table 56: Estimating subjective career success (OLS)**

Factor	Coefficient	Std. Error	t-Statistic
Constant	-1.356558	4.292223	-0.32
Age	-0.2052013	0.1608874	-1.28
Age Squared	0.002439	0.0017136	1.42
Gender (Male = 1)	-0.799514	0.3618638	-2.21*
Health (Self Assessment score)	0.984084	0.1780775	5.53**
Living In Randstad Area (Randstad = 1)	0.0150572	0.3050723	0.05
Receiving Other Income (e.g. regular job)	-0.4763586	0.3879763	-1.23
Interim manager (dummy)	-1.173891	0.4038872	-2.91**
Interim professional (dummy)	-0.7440611	0.3709353	-2.01*
Journalist or Media Professional (dummy)	-0.5157591	0.492467	-1.05
Technical Professional (dummy)	0.434244	0.6739887	0.64
Trainer or Coach (dummy)	-0.2692279	0.3651653	-0.74
Other Free Agent (dummy)	-0.0336539	0.5258469	-0.06
University Education (dummy)	0.7539263	0.4747835	1.59
HBO Education (dummy)	0.4834854	0.4621837	1.05
Freelance experience (log)	-0.003937	0.1361259	-0.03
Recent training participation (sum)	0.0242919	0.0150437	1.61
Motivated by Autonomy and Professionalism	0.3427641	0.1560506	2.20*
Motivated by Challenge and Money	0.1804451	0.153818	1.17
Motivated by Work-life Balance and Flexibility	0.3705541	0.1537185	2.41*
Insight in Career (sum)	0.225339	0.0445379	5.06**
Open Personality (sum)	0.1392696	0.0448124	3.11**
Pro-active Personality (sum)	0.130006	0.0580324	2.24*
Business Club Member (factor)	-0.1613818	0.1566942	-1.03
Managing the Agent (factor)	0.0023039	0.1741312	0.01
Size of Network (factor)	-0.0089879	0.1691738	-0.05
Network activity (sum)	0.0369041	0.0473435	0.78
Partner Support (sum)	0.1274405	0.0391403	3.26**
Better service or low cost strategy (factor)	-0.2922321	0.1515837	-1.93†
Innovative and different strategy (factor)	0.9313536	0.1775728	5.24**
Industry specialization strategy (factor)	0.0075344	0.1566451	0.05
Broad product range (factor)	0.4305484	0.1549576	2.78**
Revenue (log)	1.769593	0.1653918	10.7**
<b>Adjusted R-squared</b>	<b>0.2868</b>	<b>Est. Method</b>	<b>OLS</b>
<b>F-statistic</b>	<b>18.39</b>	<b>Observations (n)</b>	<b>1385</b>

† = significant at 10% level, \* = significant at 5% level, \*\* = significant at 1% level

The variables that do prove to be important for subjective career success are exactly those variables that are irrelevant to objective career success. Of the control variables, only self-assessed

health and gender are significant factors predicting career satisfaction. Men are less satisfied with their career than women, and freelancers with good health are more satisfied with their career than those who have not good health. Most **market** and **human capital** indicators, although crucial for objective success, do not add any value to career satisfaction. Interim managers and interim professionals are not as satisfied with their career as one would expect, given their high revenue.

**Table 57: Estimating subjective career success (ML)**

Factor	Coefficient	Std. Error	z-statistic
Constant	-1.356558	4.407242	-0.31
Age	-0.2052013	0.173482	-1.18
Age Squared	0.002439	0.001864	1.31
Gender (Male = 1)	-0.799514	0.3471066	-2.30*
Health (Self Assessment score)	0.984084	0.1931404	5.10**
Living In Randstad Area (Randstad = 1)	0.0150572	0.306105	0.05
Receiving Other Income (e.g. regular job)	-0.4763586	0.4079105	-1.17
Interim manager (dummy)	-1.173891	0.398087	-2.95**
Interim professional (dummy)	-0.7440611	0.3739605	-1.99*
Journalist or Media Professional (dummy)	-0.5157591	0.5009407	-1.03
Technical Professional (dummy)	0.434244	0.6271601	0.69
Trainer or Coach (dummy)	-0.2692279	0.3636077	-0.74
Other Free Agent (dummy)	-0.0336539	0.5867987	-0.06
University Education (dummy)	0.7539263	0.4749756	1.59
HBO Education (dummy)	0.4834854	0.4773371	1.01
Freelance experience (log)	-0.003937	0.141182	-0.03
Recent training participation (sum)	0.0242919	0.0153892	1.58
Motivated by Autonomy and Professionalism	0.3427641	0.1552853	2.21*
Motivated by Challenge and Money	0.1804451	0.1503154	1.20
Motivated by Work-life Balance and Flexibility	0.3705541	0.1561106	2.37*
Insight in Career (sum)	0.225339	0.0479622	4.7**
Open Personality (sum)	0.1392696	0.049208	2.83**
Pro-active Personality (sum)	0.130006	0.0616591	2.11*
Business Club Member (factor)	-0.1613818	0.1536743	-1.05
Managing the Agent (factor)	0.0023039	0.1864347	0.01
Size of Network (factor)	-0.0089879	0.1558321	-0.06
Network activity (sum)	0.0369041	0.0511501	0.72
Partner Support (sum)	0.1274405	0.0467177	2.73**
Better service or low cost strategy (factor)	-0.2922321	0.1466776	-1.99*
Innovative and different strategy (factor)	0.9313536	0.1882798	4.95**
Industry specialization strategy (factor)	0.0075344	0.1495288	0.05
Broad product range (factor)	0.4305484	0.162117	2.66**
Revenue (log)	1.769593	0.1813919	9.76**
<b>Log likelihood</b>	<b>-4311.5</b>	<b>Est. Method</b>	<b>ML (robust)</b>
<b>AIC</b>	<b>6.273649</b>	<b>Observations (n)</b>	<b>1385</b>

† = significant at 10% level, \* = significant at 5% level, \*\* = significant at 1% level

One **social capital** variable has a positive impact on freelance career satisfaction: Partner support is very instrumental to freelance career satisfaction, although we showed already that it is not very

helpful for freelance revenue. All **personality capital** variables demonstrate a strong significance in determining subjective career success. Especially the career insight variable is very powerful. But also the personality factors of openness to experience and pro activeness, drive freelance career satisfaction.

**Motivational** capital is also important. Professionals who freelance because of flexibility and work-life balance reasons, and professionals who freelance because of autonomy and professionalism, are more satisfied with their career.

Although we did not hypothesize on the relation between career satisfaction and **strategy capital**, strategy variables are important to subjective career success. Especially independent professionals who distinguish themselves through a strategy that is innovative and different, and independent professionals with a broad product range are more satisfied with their career. It might be that being innovative provides intrinsic benefits to independent professionals, which increases career satisfaction. Professionals with a 'low-cost' or 'better-service' strategy have lower career satisfaction levels.

In the last row in the estimation tables, the positive cross-relationship between objective and subjective success is visible. The reduced form of objective and subjective career satisfaction will therefore see different coefficients on variables than one can see in this, more richer, specification. Variables with a positive effect on career satisfaction in the, conditional, structured form (e.g recent training), may have no effect in the reduced form of the equation (i.e. training has a negative influence on revenue, and via this relationship, the total impact on subjective career success may change). Although causality cannot be established in cross-sectional analysis, revenue and career satisfaction are definitely positively related. The measure of fit ( $\approx 0.30$ ) is somewhat lower than the measure of fit of objective success ( $\approx 0.45$ ), but in line with other studies on career satisfaction. In the appendix the reduced form equations are estimated.

Various other estimation techniques (i.e. GLS, TSLS, SUR, and GMM) are used to estimate the freelance career success equations in this section. The results (in terms of coefficients and significance) are very much in line with the results from the ML-estimates.

## 8.4 Dominance

The objective of our study was not only to test several hypotheses as to the impact of the various variables, but also to assert the relative importance of the six classes of variables (i.e. market factors, motivation, human, personality, social, and strategy capital) in predicting objective and subjective career success. Budescu's dominance analysis (1993) was used to obtain this insight. Simulation would be an alternative way to acquire this insight.

### 8.4.1 Relative importance of the various success factors

Dominance analysis (see Table 58) is a very labor-intensive method, as it encompasses calculations of all combinations of equations that can be made out of five classes of variables. For every possible combination of variable classes the R-squared measure was calculated (in total 64 measures of fit for objective and subjective success). For all combinations the extra fit of adding a new class of variable was calculated (see the appendix). Subsequently, the average extra fit is calculated. This can be seen in table 61.  $K$  is the number of variable classes already in the equation. In the cell the effect on fit is measured by the extra R-squared.

For example, if one has an equation with already one class of variables ( $K=1$ ) present (i.e. human capital, social capital, personality, motivational, or strategy capital), the addition of market capital will increase the fit of that equation with on average 0.0819. Similarly, if one has an equation with already two class of variables ( $K=2$ ) present (e.g. human and social capital), the addition of market capital will increase the fit with on average 0.0744.

**Table 58: Dominance analysis of objective career success**

	Market Capital	Human Capital	Personality Capital	Motivational Capital	Social Capital	Strategy Capital
K = 0	0.0895	0.0368	0.0000	0.0059	0.0465	0.0134
K = 1	0.0819	0.0391	0.0011	0.0053	0.0411	0.0110
K = 2	0.0744	0.0405	0.0018	0.0047	0.0356	0.0090
K = 3	0.0669	0.0411	0.0020	0.0042	0.0298	0.0073
K = 4	0.0598	0.0413	0.0023	0.0038	0.0248	0.0055
K = 5	0.0531	0.0412	0.0014	0.0035	0.0200	0.0040
Mean	0.0707	0.0405	0.0018	0.0045	0.0328	0.0082
Rel. percentage	<b>44.6%</b>	<b>25.6%</b>	<b>1.1%</b>	<b>2.8%</b>	<b>20.7%</b>	<b>5.2%</b>

*Note: GLS was used to estimate dominance*

By mixing all the possible combinations, it follows that the average extra fit of market capital is 0.0707. This is higher than the average extra fit of human capital (0.0405), personality capital (0.0018), motivational capital (0.0045), social capital (0.0328) and strategy capital (0.0082). Market

capital is therefore the most important determinant of objective career success (44.6%), whatever specification you use, followed by human capital (25.6%), and social capital (20.7%). Strategy capital (5.2%), motivational capital (2.8%), and personality capital (1.1%) seem to be of minor importance in determining objective career success.

The same procedure is again followed in Table 59 to determine the relative importance of factors determining subjective career success. Here the average extra fit of market capital is 0.0085 or 6.4%. This is much lower than the average extra fit of personality capital (0.0481; 36.4%), strategy capital (0.0346; 26.2%), and social capital (0.0283; 21.4%). Motivational capital (0.0090; 6.8%), human capital (0.0038; 2.9%), and market capital are perhaps very important in determining objective success, they are almost irrelevant in determining subjective success. Social capital is the only factor that has a considerable and positive impact on both revenue (objective success) and career satisfaction (subjective success).

**Table 59: Dominance analysis of subjective career success**

	Market Capital	Human Capital	Personality Capital	Motivational Capital	Social Capital	Strategy Capital
K = 0	0.0070	0.0104	0.0720	0.0155	0.0410	0.0614
K = 1	0.0081	0.0076	0.0613	0.0121	0.0358	0.0503
K = 2	0.0086	0.0055	0.0519	0.0097	0.0315	0.0406
K = 3	0.0087	-0.0001	0.0437	0.0078	0.0220	0.0240
K = 4	0.0085	0.0032	0.0346	0.0063	0.0254	0.0256
K = 5	0.0083	0.0028	0.0311	0.0052	0.0236	0.0202
Mean	0.0085	0.0038	0.0481	0.0090	0.0283	0.0346
Rel. percentage	<b>6.4%</b>	<b>2.9%</b>	<b>36.4%</b>	<b>6.8%</b>	<b>21.4%</b>	<b>26.2%</b>

Note: GLS was used to estimate dominance

#### 8.4.2 Significance of the various factors

The variable of interest in the section on dominance is the measure of fit. Although this information is related to hypothesis testing, it does not give us information on the significance of groups of variables. A group of variables may add to the measure of fit, without being significant, and a variable may be significant, without adding a lot of fit. In this section tests on significance of groups of variables are performed. This was done along 2 lines: 1) by starting with no variables and adding variables (Table 60 and 61), and 2) by starting with the full model and then removing groups of variables (Table 62 and 63).

**Table 60: Building the model explaining objective success**

Model	F-test	Significance
I: Control variables	71.13**	0.0000
II: I + Sub. career success	128.12**	0.0000
III: II + Market factors	38.98**	0.0000
IV: III + Human Capital	23.48**	0.0000
V: IV + Personality Capital	0.54	0.6578
VI: V + Motivational Capital	3.42*	0.0168
VII: VI + Social Capital	11.76**	0.0000
VIII: VII + Strategy Capital	2.94*	0.0196

Table 60 shows a model that starts with only the control variables, and then starts including more variables. First, subjective career success is added, then market capital, followed by human capital, personality capital, social capital, and, finally, strategy capital. For all groups of variables the overall effect of deleting a particular group on the overall performance of the objective career success model is measured.

**Table 61: Stripping the model explaining objective success**

Model	Chi-Squared	Significance
Market factors	141.24**	0.0000
Human Capital	88.67**	0.0000
Motivational Capital	9.71*	0.0212
Personality Capital	4.86	0.1823
Social Capital	31.65**	0.0000
Strategy Capital	10.92*	0.0274

Table 60 and 61 strengthen each other. Both show that the market capital, human capital, social capital and strategy capital all contribute significantly to objective career success. The only group of variables that does not help building the revenue model is personality capital.

**Table 62: Building the model explaining subjective success**

Model	F-test	Significance
I: Control variables	19.23**	0.0000
II: I + Revenue (log)	126.56**	0.0000
III: II + Market factors	2.26*	0.0352
IV: III + Human Capital	4.49	0.0013
V: IV + Personality Capital	40.12**	0.0000
VI: V + Motivational Capital	6.04**	0.0004
VII: VI + Social Capital	2.33*	0.0405
VIII: VII + Strategy Capital	8.24**	0.0000

Moving to subjective success, it is clear that almost all variables add value to the subjective success model, contributing to the explanation of subjective career success. The major exception is human capital.

**Table 63: Stripping the model explaining subjective success**

Model	Chi-Squared	Significance
Market factors	2.31*	0.0241
Human Capital	1.29	0.2705
Motivational Capital	3.78*	0.0102
Personality Capital	21.30**	0.0000
Social Capital	2.41*	0.0346
Strategy Capital	9.6**	0.0000

Going back to our original hypotheses formulated in Chapter 6, it cannot be rejected that human capital explains objective freelance success (**hypothesis 1**). However, no evidence is found for a positive relationship between human capital and subjective freelance success. Hypothesis 1 is thus not completely rejected. Social capital is positively related to objective and subjective career success. Thus **hypothesis 2 is not rejected**.

No relationship is found between personality capital and objective career success. There are 4 potential reasons why there is no link found between personality capital and objective career success. Firstly, it may be because personality capital does influence social and strategy capital, but has no additional effects on career success. Secondly, it may be because the precise effect of personality factors may be contingent on other factors (see Chapter 10). Thirdly, our three measures of personality capital are not sufficient and, fourthly, there is no link between personality capital and freelance revenue. A strong positive link is found between personality capital and subjective career success. **Hypothesis 3 is thus only partly rejected**.

Individuals, who choose a freelancing career because of work-life balance and flexibility grounds, indeed have lower revenue and higher career satisfaction levels (**hypothesis 4 is not rejected**). Regarding strategy capital, focused business strategies (both industry and product focus) show indeed a relationship with objective career success, but no relationship with subjective career success. Differentiation does not show a relationship with objective career success, but a strong positive relationship with subjective career success. As a consequence partial support is found for **hypothesis 5**, where focused strategies are positively related to freelance revenue and differentiation strategies related to career satisfaction.

As expected, the market dominated all other factors in determining objective freelance career success (**hypothesis 6 is not rejected**), and personality capital dominated all other factors in determining subjective freelance career success (**hypothesis 7 is not rejected**).

Also support is found for **hypothesis 12** as age, beyond a certain optimal age, negatively impacts objective career success. No support was found for **hypothesis 13**, as no relationship is found between age and subjective career success.

## 8.5 Testing simple interaction effects

Until now this chapter concentrated on testing the individual effects of the different variables. But there are good reasons to assume that some variables only work well in combination with other instruments. They are complementary variables. It is even possible that some of the variables only work if they are used independently from another instrument (i.e. they are substitutes). In this section the relevant hypotheses on whether some of the partial success drivers are complementary or substitutes, are tested.

### 8.5.1 The interaction effect between social and human capital

Many interviewees argued that social capital and human capital are complementary factors. They argued that it is not who you know or what you know, but that real success is created by the combination of know how and know whom. This line of reasoning is intuitively appealing. For instance, if one wants to sell a certain service, but one does not have access to clients, one cannot earn any money. Also, when one knows clients who want a certain service, but one has no access to that service, one cannot sell this, and thus cannot earn any money.

**Table 64: Testing interaction human and social capital**

Factor	Coefficient	Std. Error	t-Statistic
Business Club Member * HBO Education	0.0148431	0.0186955	0.79
Managing Agencies * HBO Education	0.0056535	0.0177433	0.32
Size Network * HBO Education	0.0008017	0.0006587	1.22
Network activity * HBO Education	-0.0068461	0.0053637	-1.28
Partner Support * HBO Education	-0.0120274	0.0204029	-0.59
Business Club Member * University Education	0.0099615	0.018867	0.53
Managing Agencies * University Education	-0.0000267	0.0006154	-0.04
Size Network * University Education	0.0007763	0.0051676	0.15
Network activity * University Education	0.0575071	0.1034974	0.56
Partner Support * University Education	0.0011223	0.0952598	0.01
Business Club Member * Experience Freelance	0.0007269	0.0025983	0.28
Managing Agencies * Experience Freelance	-0.0057857	0.0216179	-0.27
Size Network * Experience Freelance	0.0246596	0.0800719	0.31
Network activity * Experience Freelance	-0.0766775	0.0756966	-1.01
Partner Support * Experience Freelance	-0.0001516	0.002187	-0.07
Business Club Member * Recent Training	-0.0068654	0.0190571	-0.36
Managing Agencies * Recent Training	0.1114221	0.0816529	1.36
Size Network * Recent Training	0.0448206	0.0774517	0.58
Network activity * Recent Training	-0.0020211	0.0022638	-0.89
Partner Support * Recent Training	0.0388051	0.0216236	1.79

To test this hypothesis 20 interaction effects (4 human capital variables times 5 social capital variables) were added to the objective success equation. Table 64 shows the significance of the interaction effects. None of the individual interaction effects were significant at the 5% level, and 8 out of the 20 parameters are even negative. We tested whether all the interaction effects were nil. The Chi-squared test statistic was 15.68 ( $p = 0.74$ ), so the hypothesis that all interaction parameters are zero cannot be rejected. This leads to the conclusion that there are no interaction effects between social capital and human capital. This means that these success factors are neither complements nor substitutes; they seem independent of each other.

### 8.5.2 The interaction effect between networking and employment agencies

Most independent professionals want to avoid working for intermediaries, such as: employment agencies. That is only natural as a significant proportion of the professional fees goes to these employment agencies. The advantage of working with employment agencies is that they will use their network to obtain an assignment for freelancer, and employment agency. So using an employment agency is especially relevant when ones networking qualities are not so good. To test this potential substitution effect, a single interaction variable was added.

**Table 65: Testing substitution effects networking**

Factor	Coefficient	Std. Error	t-Statistic
Network Activity * Managing Agencies (all)	-0.0086749	0.0053351	-1.63
Network Activity * Managing Agencies (with partner)	-0.0071277	0.0059222	-1.20

In Table 65 one can see that there seems to be a substitution effect, but the parameter is not significant at the 5% level. **Hypothesis 9** is therefore rejected. This analysis was then also carried out for several subgroups, as this effect might be important for some professions where there is a stronger presence of employment agencies, or where networking is a more important success factor. The results are given in Table 66. It is clear that a substitution effect is indeed present for interim professionals (IT professionals, finance professionals, legal professionals, HRM professionals, and management consultants), but not for the other professions.

**Table 66: Testing substitution effects networking for subgroups**

Factor	Coefficient	Std. Error	t-Statistic
Interim managers	-0.0021515	-0.0099668	-0.22
Interim professional	-0.0208967	-0.008701	-2.40*
Trainer/coach	-0.0014142	-0.0111241	-0.13
Technical professional	-0.0305126	-0.0411889	-0.74
Journalist	-0.0055225	-0.023133	-0.24
Other freelancer	-0.0028886	-0.0158701	-0.18

† = significant at 10% level, \* = significant at 5% level, \*\* = significant at 1% level

### 8.5.3 The interaction effect between personality and employment agencies

To test whether individuals who lack the necessary personality (i.e. pro-active, open and career insight) to further their career have more benefit from using employment agencies, the interaction effect of the 3 personality characteristics with managing employment agencies, was tested. From Table 67 it is clear that personality and managing agencies are independent. One cannot say that individuals who lack certain personality traits, such as: openness and pro-activeness can compensate this by obtaining the support of employment agencies.

**Table 67: Testing substitution effects personality for subgroups**

Factor	F-test	Probability
Interim managers	0.19	0.9060
Interim professional	0.26	0.8522
Trainer/coach	0.51	0.6759
Technical professional	0.05	0.9866
Journalist	1.05	0.3710
Other freelancer	0.18	0.9060

## 8.6 Subgroup analysis

As said in the beginning of this thesis, there are many different independent professionals, implying one cannot speak of the independent professional. There are different markets, which may require different skill sets. To get a better feel for these differences, various subgroups were analyzed. Factor analysis, theoretical motivations and practical reasons (i.e. enough observations) resulted in 6 distinct groups of professionals: 1) interim managers, 2) interim professionals, 3) coaches and trainers, 4) technical professionals, 5) journalists, and 6) other independent professionals.

### 8.6.1 Success factors per profession

For every subgroup the revenue and career satisfaction equations were estimated (Table 72, and the appendix for the detailed estimates per profession). Using F-test the significance of the different groups of variables was tested. This led to some remarkable results. The objective freelance career success of **technical professionals** proved hardest to predict. The limited number of observations partly caused the low significance levels, but the low measure of fit also indicates that there might be other success factors, outside the scope of this thesis, which are perhaps relevant to these professions. The interviewees were very clear on the success factors of technical professionals: technical ability (i.e. is someone knowledgeable and skilled). As said, measuring these detailed technical skills is beyond the scope of this research. It proved also hard

to predict the objective freelance career success of **interim managers**. Contrary to common wisdom, social capital (e.g. networking) and personality traits seem not to be important for interim managers. Education and freelance experience were the only significant success factors for interim managers.

**Table 68: Factors determining objective career success**

	Interim managers	Interim professionals	Journalist	Trainer/Coach	Technical/Construction	Other
Market	3.37*	6.99**	1.08	3.83**	0.56	4.20**
Human Capital	8.59**	8.69**	0.31	15.78**	0.98	8.76**
Mot. Capital	2.14†	2.72*	0.21	0.81	3.76*	0.66
Per. Capital	1.26	0.37	0.57	1.84	1.52	2.40*
Social Capital	0.38	3.64**	3.91**	1.01	2.51*	0.88
Strategy Capital	0.69	1.30	1.69	1.46	0.54	1.82
Observations (n)	<b>394</b>	<b>660</b>	<b>144</b>	<b>510</b>	<b>92</b>	<b>179</b>

† = significant at 10% level, \* = significant at 5% level, \*\* = significant at 1% level

Except for personality capital, all groups of variables are relevant to **interim professionals**.

Human capital, social capital and strategy capital are all relevant to their objective freelance career success. For **journalists and media professionals** the included human capital factors, such as: the level of education and freelance experience, are unimportant. This is a remarkable exception to our general findings.<sup>23</sup>

**Table 69: Factors determining subjective career success**

	Interim managers	Interim professionals	Journalist	Trainer/Coach	Technical/Construction	Other
Market	22.46**	22.99**	7.31	10.74†	1.74	15.65*
Human Capital	6.13	7.38	2.08	6.83	6.76	5.39
Mot. Capital	2.68	4.34	2.81	2.57	1.10	3.19
Per. Capital	6.46†	22.14**	10.72*	15.21**	2.39	18.50**
Social Capital	10.47†	6.23	23.77**	6.73	4.83	4.81
Strategy Capital	6.40	27.63**	15.31**	10.12*	4.31	5.06
Observations	<b>394</b>	<b>660</b>	<b>144</b>	<b>510</b>	<b>92</b>	<b>179</b>

† = significant at 10% level, \* = significant at 5% level, \*\* = significant at 1% level

Human capital and strategy capital are, again, the most important groups of variables for **trainers and coaches**. Trainers and coaches who mention better service or low cost as their preferred business strategy make substantially less money. Last, but not least, **other freelancers**, such as: translators, health care, and facility professionals (management and personal assistants, security specialists) are considered. Social and strategy capital are important, but human capital factors, such as: education and experience are once more the most eminent. With respect to subjective

<sup>23</sup> It is interesting that industry specialization proved an important factor for journalists/media professionals, but none of the journalists and only 15 media professionals indicated that they were specialized in an industry. So whether this factor is in reality relevant to journalists is doubtful. This relationship is probably significant because media professionals are more inclined to have an industry expertise and have an higher average income.

freelance career success, the measure of fit was approximately the same for all the different professions, reflecting the fact that the market is not very important to achieve career satisfaction. It is therefore no surprise that the results per profession in Table 69 are comparable to the overall results in section 8.3. In almost all professions, personality is most important, followed by strategy and social capital.

For revenue a dominance analysis was performed. From this it is clear that the determinants vary strongly from one profession to another. The relative importance of market factors varies between 14.5 and 43.7%, human capital between 7.1 and 52.7%, social capital between 2.7 and 32%, personality capital between 1.1 and 7.9%, motivational capital between 3.1 and 23.9%, and strategy capital between 5.7 and 12.9%. This all demonstrates clearly that we need to understand more about the environments in which these professionals operate and which regulate the relative importance of success drivers.

**Table 70: Dominance analysis of revenue per profession**

	<b>Interim managers</b>	<b>Interim professionals</b>	<b>Journalist</b>	<b>Trainer/ Coach</b>	<b>Technical/ Construction</b>	<b>Other</b>
Market factors	26.5%	32.7%	43.7%	24.5%	14.5%	30.2%
Human Capital	52.7%	34.6%	7.1%	49.6%	25.9%	31.6%
Mot. Capital	9.2%	6.0%	3.1%	3.6%	23.9%	3.8%
Personality Capital	5.6%	1.8%	1.1%	7.9%	8.8%	7.5%
Social Capital	2.7%	19.1%	32.0%	6.8%	19.8%	14.7%
Strategy Capital	3.3%	5.7%	12.9%	7.5%	7.2%	12.2%
R-squared	<b>0.3603</b>	<b>0.3794</b>	<b>0.4722</b>	<b>0.4872</b>	<b>0.3911</b>	<b>0.4643</b>

*Note: market factors reflect here whether professionals have a second profession and can perhaps be seen better as a skill dummy than a market dummy*

### 8.6.2 Full-timers versus part-timers

It is not easy to distinguish between part-time and full-time professionals. An independent professional who works 20 hours per week, can be a very successful professional, if he or she only wants to work two or three days per week (e.g. to have enough time to take care of family matters), or he or she can be a struggling professional who cannot find enough assignments to fill the workweek.

The number of hours worked is thus not a good feature to discriminate between those professionals who see their entrepreneurship as their main source of income, and those professionals who see their freelance career as a source of additional income. To discern both types of professionals, we discriminate between professionals with, and without another source of income. We will call professionals without another source of income full-timers, and professionals with another source of income part-timers, even though 25% of independent

professionals with additional income still work 40 hours per week or more, and hence can hardly be called part-timers in the traditional meaning of the word. There is a small but significant ( $p < 0.01$ ) overrepresentation of trainers and coaches in the part-time professionals subsample.

**Table 71: Objective freelance career success for ‘full-timers’**

Factor	Coefficient	Std. Error	z-statistic
Constant	5.655419	0.7694218	7.35**
Age	0.0939937	0.030945	3.04**
Age Squared	-0.0010758	0.0003366	-3.20**
Gender (Male = 1)	0.3793214	0.0563633	6.73**
Health (Self Assessment)	0.0181884	0.0301514	0.60
Living In Randstad Area (Randstad = 1)	0.0384593	0.0479537	0.80
Interim manager (dummy)	0.3424475	0.0594412	5.76**
Interim professional (dummy)	0.1758472	0.0573534	3.07**
Journalist or Media Professional (dummy)	-0.2546309	0.0761123	-3.35**
Technical Professional (dummy)	0.0476898	0.0977183	0.49
Trainer or Coach (dummy)	-0.1681784	0.0568364	-2.96**
Other Free Agent (dummy)	-0.4506494	0.0788076	-5.72**
University Education (dummy)	0.2906199	0.0815338	3.56**
HBO Education (dummy)	0.1295488	0.081812	1.58
Freelance experience (log)	0.1244611	0.0245482	5.07**
Recent training (sum)	-0.0058424	0.0024481	-2.39*
Motivated by Autonomy and Professionalism	0.0282806	0.0245764	1.15
Motivated by Challenge and Money	0.0490388	0.0232999	2.10*
Motivated by Work-life Balance and Flexibility	-0.0463322	0.0237453	-1.95†
Insight in Career (sum)	-0.0108002	0.0073549	-1.47
Open Personality (sum)	0.0014388	0.0069965	0.21
Pro-active Personality (sum)	-0.0099544	0.0096854	-1.03
Business Club Member (factor)	-0.0085758	0.0245368	-0.35
Managing the Agent (factor)	0.0608389	0.0228432	2.66**
Size of Network (factor)	-0.0078782	0.0220604	-0.36
Network Activity (sum)	0.5649681	0.1112975	5.08**
Partner Support (sum)	N.A.	N.A.	N.A.
Better service or low cost strategy	-0.0000579	0.0243358	0.00
Innovative and different strategy	0.0021457	0.0282543	0.08
Industry specialization strategy	0.0645606	0.0236647	2.73**
Broad product range	-0.0337256	0.0243151	-1.39
Subjective Career Success (sum)	0.0488071	0.0048986	9.96**
<b>Log likelihood</b>	<b>-1265.464514</b>	<b>Est. Method</b>	<b>ML (robust)</b>
<b>AIC</b>	<b>2.459648</b>	<b>Observations (n)</b>	<b>1204</b>

† = significant at 10% level, \* = significant at 5% level, \*\* = significant at 1% level

There are minimal differences between part-timers and full-timers with respect to the career success factors (Table 71 and 72). Age seems to be more important for full-timers than for part-timers, signifying that part-timers can be successful until high age. This is perhaps because part-timers regard freelance income more as an option than as a livelihood. When they grow older and opportunities diminish, they have the possibility to opt out. Experience with freelancing is more important for part-timers, suggesting that it is not so easy to start with part-time freelancing, next

to and on top of a regular job It is noteworthy that motivated by challenge and money is positive for full-time revenue, but negative for part-time revenue.

**Table 72: Objective freelance career success for 'part-timers'**

Factor	Coefficient	Std. Error	z-statistic
Constant	7.355604	1.441762	5.10**
Age	0.0536942	0.0523411	1.03
Age Squared	-0.0006685	0.0005308	-1.26
Gender (Male = 1)	0.2446659	0.1296347	1.89†
Health (Self Assessment)	0.0811283	0.0496896	1.63
Living In Randstad Area (Randstad = 1)	0.1261642	0.1034229	1.22
Interim manager (dummy)	0.4507419	0.1326212	3.40**
Interim professional (dummy)	0.071159	0.127724	0.56
Journalist or Media Professional (dummy)	-0.5826122	0.1627675	-3.58**
Technical Professional (dummy)	0.3303702	0.2431684	1.36
Trainer or Coach (dummy)	-0.3569025	0.1250603	-2.85**
Other free agents (dummy)	-0.5218045	0.1633226	-3.19**
University Education (dummy)	0.4963617	0.1623008	3.06**
HBO Education (dummy)	0.0018478	0.1666778	0.01
Experience as a Free Agent (log)	0.2329587	0.0408519	5.7**
Sum of recent training	0.0005475	0.0055184	0.10
Motivated by Autonomy and Professionalism	0.0320477	0.0521953	0.61
Motivated by Challenge and Money	-0.1078774	0.0545722	-1.98*
Motivated by Work-life Balance and Flexibility	-0.0763184	0.0495506	-1.54
Insight in Career (log of sum)	0.0065209	0.0161528	0.40
Open Personality (log of sum)	-0.007075	0.0151761	-0.47
Pro-active Personality (log of sum)	-0.0231795	0.0167953	-1.38
Business Club Member	0.0619383	0.0530767	1.17
Managing the Agent	0.2236132	0.0634919	3.52**
Size of Network	0.1450282	0.0552164	2.63*
Network activity (log of sum)	0.2220402	0.218999	1.01
Partner Support (log of sum)	N.A.	N.A.	N.A.
Better service or low cost strategy	-0.0623713	0.0455366	-1.37
Innovative and different strategy	0.1017736	0.0572533	1.78†
Industry specialization	0.0585973	0.0530474	1.10
Broad product range	-0.0262867	0.0524216	-0.50
Subjective Career Success (log of sum)	0.0250413	0.0080801	3.12**
<b>Log likelihood</b>	<b>-526.0470329</b>	<b>Est. Method</b>	<b>ML (robust)</b>
<b>AIC</b>	<b>2.931826</b>	<b>Observations (n)</b>	<b>380</b>

† = significant at 10% level, \* = significant at 5% level, \*\* = significant at 1% level

Managing the agencies and the size of network, proved to be more important for part-timers than full-timers. This might reflect the fact that it is more difficult for part-time freelancers to find assignments, implying that a large network and employment agencies are very helpful here. Remarkable is the finding that the best firm strategy for full-timers is to specialize in an industry (i.e. a client intimacy strategy), whereas the best strategy for part-timers is being innovative and/or different. This is perhaps caused by the fact that a client intimacy strategy requires substantial investments in time and money, to personally know all the important actors in a

certain industry. Such a strategy might not be feasible for part-timers. To stand out from the crowd, they need a novel or different aspect of their value proposition.

### 8.6.3 Gender differences in success factors

In the light of the considerable number of female entrepreneurial networks, the differences between males and females, regarding the objective career success factors in Tables 73 and 74, are remarkably small. One might think that different success factors apply to men and women, but in reality the success factors for males and females are almost the same.

**Table 73: Objective career success for males**

Factor	Coefficient	Std. Error	z-statistic
Constant	5.909903	1.099201	5.38**
Age	0.1206807	0.0382745	3.15**
Age Squared	-0.0013457	0.0003974	-3.39**
Health (Self Assessment)	0.0382357	0.0412217	0.93
Living In Randstad Area (Randstad = 1)	0.0662284	0.0636011	1.04
Receiving other income	-0.5483934	0.0952599	-5.76**
Interim manager (dummy)	0.3251953	0.0722558	4.5**
Interim professional (dummy)	0.116836	0.0796487	1.47
Journalist or Media Professional (dummy)	-0.467182	0.1256683	-3.72**
Technical Professional (dummy)	0.0515302	0.1210659	0.43
Trainer or Coach (dummy)	-0.227391	0.072726	-3.13**
Other free agents (dummy)	-0.3947553	0.1433894	-2.75**
University Education (dummy)	0.3191965	0.0977717	3.26**
HBO Education (dummy)	-0.0064765	0.1003313	-0.06
Experience as a Free Agent (log)	0.1344512	0.0297474	4.52**
Sum of recent training	-0.0045741	0.0036956	-1.24
Motivated by Autonomy and Professionalism	0.0280509	0.0335074	0.84
Motivated by Challenge and Money	0.0343268	0.0323115	1.06
Motivated by Work-life Balance and Flexibility	-0.0411183	0.030999	-1.33
Insight in Career (sum)	-0.0074631	0.0100282	-0.74
Open Personality (sum)	-0.0028196	0.0094086	-0.3
Pro-active Personality (sum)	-0.0214563	0.011464	-1.87†
Business Club Member	0.0212087	0.0335921	0.63
Managing the Agent	0.0580233	0.0318225	1.82†
Size of Network	0.0275705	0.0369305	0.75
Network activity (sum)	0.5299985	0.1457411	3.64**
Partner Support (sum)	-0.0030008	0.0071074	-0.42
Better service or low cost strategy	-0.0086522	0.0316878	-0.27
Innovative and different strategy	0.0284597	0.0401258	0.71
Industry specialization	0.0638031	0.0299113	2.13*
Broad product range	-0.092167	0.0323959	-2.85**
Subjective Career Success (log of sum)	0.0433454	0.006538	6.63**
<b>Log likelihood</b>	<b>-898.8741359</b>	<b>Est. Method</b>	<b>ML (robust)</b>
<b>AIC</b>	<b>2.567929</b>	<b>Observations (n)</b>	<b>725</b>

† = significant at 10% level, \* = significant at 5% level, \*\* = significant at 1% level

Nonetheless, there are some interesting differences between the success drivers of men and women. Aging is much more important for men than for women. The revenue of males seems to

peak between 45 and 50 years old, after which it diminishes. Age is not important for female freelance revenue. Good health, on the other hand, is an important success factor for females (even if the causality could be the other way round).

**Table 74: Objective career success for females**

Factor	Coefficient	Std. Error	z-statistic
Constant	7.326178	1.04138	7.04**
Age	0.0221513	0.0433478	0.51
Age Squared	-0.0003558	0.0004775	-0.75
Health (Self Assessment)	0.0399398	0.0394007	1.01
Living In Randstad Area (Randstad = 1)	0.0890513	0.0718696	1.24
Receiving other income	-0.6315176	0.0915655	-6.9**
Interim manager (dummy)	0.5818989	0.1093776	5.32**
Interim professional (dummy)	0.1653269	0.0876087	1.89†
Journalist or Media Professional (dummy)	-0.2047866	0.1051108	-1.95*
Technical Professional (dummy)	0.2268071	0.2909812	0.78
Trainer or Coach (dummy)	-0.1578528	0.0942703	-1.67†
Other free agents (dummy)	-0.4200813	0.1041784	-4.03**
University Education (dummy)	0.4243617	0.1333893	3.18**
HBO Education (dummy)	0.3389535	0.1354327	2.5**
Experience as a Free Agent (log)	0.1939114	0.034327	5.65**
Sum of recent training	-0.0097636	0.0033464	-2.92**
Motivated by Autonomy and Professionalism	0.0568105	0.035141	1.62
Motivated by Challenge and Money	0.0027782	0.0357675	0.08
Motivated by Work-life Balance and Flexibility	-0.0493321	0.0358074	-1.38
Insight in Career (sum)	0.0025554	0.0110542	0.23
Open Personality (sum)	-0.0018249	0.0102338	-0.18
Pro-active Personality (sum)	-0.0021777	0.0144576	-0.15
Business Club Member	-0.0053262	0.0364368	-0.15
Managing the Agent	0.124971	0.038899	3.21**
Size of Network	0.0312519	0.0363414	0.86
Network activity (sum)	0.3337455	0.1501074	2.22**
Partner Support (sum)	0.0058388	0.0091928	0.64
Better service or low cost strategy	-0.0188693	0.0353086	-0.53
Innovative and different strategy	0.030255	0.0397849	0.76
Industry specialization	0.0353113	0.0377369	0.94
Broad product range	0.0138702	0.0368716	0.38
Subjective Career Success (sum)	0.0423685	0.0062044	6.83**
<b>Log likelihood</b>	<b>-837.4630155</b>	<b>Est. Method</b>	<b>ML (robust)</b>
<b>AIC</b>	<b>2.634736</b>	<b>Observations (n)</b>	<b>660</b>

† = significant at 10% level, \* = significant at 5% level, \*\* = significant at 1% level

Looking at human capital, it is notable that training does not lead to lower revenue of men, but has a strong effect on female revenue. The ‘opportunity cost’ hypothesis does not seem valid here as the utilization of men is higher than that of women: one would expect higher average opportunity cost for male freelancers. For women, managing employment agencies seems to be an important success factor. It is also noteworthy that for women none of the firm strategy variables is significant, suggesting that freelance firm strategy is of no consequence to women.

The explained variance is somewhat higher for women (44%) than for men (39%). This may indicate that the true ‘male’ career success model, includes more variables that are out of scope in this study.

**Table 75: Subjective career success for males**

Factor	Coefficient	Std. Error	z-statistic
Constant	-0.711454	6.079011	-0.12
Age	-0.23613	0.2182129	-1.08
Age Squared	0.0022311	0.0023168	0.96
Health (Self Assessment)	1.298164	0.2773572	4.68**
Living In Randstad Area (Randstad = 1)	-0.0852303	0.4072342	-0.21
Receiving other income	0.0249003	0.5422089	0.05
Interim manager (dummy)	-1.146567	0.4793152	-2.39*
Interim professional (dummy)	-1.23014	0.5223668	-2.35*
Journalist or Media Professional (dummy)	-1.5861	0.7853026	-2.02*
Technical Professional (dummy)	0.3571871	0.7220781	0.49
Trainer or Coach (dummy)	0.6940042	0.4822127	1.44
Other free agents (dummy)	-0.0321271	1.01763	-0.03
University Education (dummy)	1.165336	0.6635978	1.76†
HBO Education (dummy)	0.9110226	0.6525495	1.4
Experience as a Free Agent (log)	0.3379747	0.1864961	1.81†
Sum of recent training	0.0125922	0.019741	0.64
Motivated by Autonomy and Professionalism	0.0433146	0.2092945	0.21
Motivated by Challenge and Money	0.2746505	0.1990241	1.38
Motivated by Work-life Balance and Flexibility	0.4692373	0.1994691	2.35*
Insight in Career (sum)	0.1996658	0.06547	3.05**
Open Personality (sum)	0.1180945	0.0712307	1.66†
Pro-active Personality (sum)	0.1040437	0.0816534	1.27
Business Club Member	-0.1823495	0.2009652	-0.91
Managing the Agent	0.0615978	0.2096041	0.29
Size of Network	-0.0937545	0.2257663	-0.42
Network activity (sum)	0.7819735	1.06698	0.73
Partner Support (sum)	0.0738904	0.0549947	1.34
Better service or low cost strategy	-0.3250116	0.1886028	-1.72†
Innovative and different strategy	1.165258	0.2547788	4.57**
Industry specialization	-0.0799449	0.1896781	-0.42
Broad product range	0.4017133	0.2076744	1.93†
Revenue (log)	1.660725	0.254761	6.52**
<b>Log likelihood</b>	<b>-2220.480077</b>	<b>Est. Method</b>	<b>ML (robust)</b>
<b>AIC</b>	<b>6.213738</b>	<b>Observations (n)</b>	<b>725</b>

† = significant at 10% level, \* = significant at 5% level, \*\* = significant at 1% level

If one looks at the success factors for subjective career success in Tables 75 and 76, equivalent factors can be found for men and women, but there are some subtle differences. Health seems to be more important for men’s career satisfaction than for women’s, and women having another source of income report lower career satisfaction levels. For men, interim managers, interim

professionals, and journalists and/or media professionals, have a lower career satisfaction than other professions.

**Table 76: Subjective career success for females**

Factor	Coefficient	Std. Error	z-statistic
Constant	-0.7896046	7.317273	-0.11
Age	-0.2854717	0.2929989	-0.97
Age Squared	0.0039338	0.0032105	1.23
Health (Self Assessment)	0.6286978	0.2733095	2.3*
Living In Randstad Area (Randstad = 1)	0.2736362	0.4575998	0.6
Receiving other income	-1.205631	0.5985138	-2.01*
Interim manager (dummy)	-1.665638	0.7222542	-2.31*
Interim professional (dummy)	-0.6397863	0.5508459	-1.16
Journalist or Media Professional (dummy)	-0.1897849	0.7034176	-0.27
Technical Professional (dummy)	-0.5156	1.622455	-0.32
Trainer or Coach (dummy)	-1.188404	0.5930804	-2
Other free agents (dummy)	-0.3278609	0.7648668	-0.43
University Education (dummy)	0.3064907	0.7104858	0.43
HBO Education (dummy)	-0.0642961	0.7415325	-0.09
Experience as a Free Agent (log)	-0.3319364	0.2115053	-1.57
Sum of recent training	0.032769	0.0239622	1.37
Motivated by Autonomy and Professionalism	0.580942	0.2305154	2.52*
Motivated by Challenge and Money	-0.00875	0.2328392	-0.04
Motivated by Work-life Balance and Flexibility	0.3653917	0.2371677	1.54
Insight in Career (sum)	0.258225	0.0718239	3.6**
Open Personality (sum)	0.1770445	0.0648895	2.73**
Pro-active Personality (sum)	0.1603705	0.0917377	1.75†
Business Club Member	-0.2023773	0.2355646	-0.86
Managing the Agent	-0.0661191	0.3371677	-0.2
Size of Network	0.065	0.2164948	0.3
Network activity (sum)	0.2126516	1.241068	0.17
Partner Support (sum)	0.1891836	0.0770889	2.45*
Better service or low cost strategy	-0.233211	0.2364703	-0.99
Innovative and different strategy	0.7078307	0.2793144	2.53*
Industry specialization	0.1637538	0.2391973	0.68
Broad product range	0.4658059	0.2555075	1.82†
Revenue (log)	1.783581	0.2498338	7.14**
<b>Log likelihood</b>	<b>-2071.654046</b>	<b>Est. Method</b>	<b>ML (robust)</b>
<b>AIC</b>	<b>6.374709</b>	<b>Observations (n)</b>	<b>660</b>

† = significant at 10% level, \* = significant at 5% level, \*\* = significant at 1% level

Career insight is important for both sexes. Men with work-life balance and flexibility motivations, report higher career satisfaction levels, but women with professionalism and autonomy motivations, report higher career satisfaction levels. Partner support is more important for women than for men. This variable has a very high parameter coefficient, suggesting that partner support is vital to the career satisfaction of freelance females. Both sexes are more fulfilled if they pursued a firm strategy that provides better service (and/or lower costs). Furthermore, males are more satisfied if they pursue an innovative and/or differentiating strategy.

The differences between men and women, regarding their freelance success factors, are not that large. For both sexes, market, human, and social capital are the major determinants of objective success. Personality and strategy capital are the keys to satisfaction.

## 8.7 Professional fees and the utilization rate of professionals

Most independent professionals charge their clients a fixed professional fee per time period (hour or day). In those professions with longer assignments (e.g. interim management) there is a tendency to use daily rates, but taken as a whole, hourly fees are the market standard. In some professions (e.g. journalists, translators) different payment schemes are also customary (e.g. per written word or per article). Nevertheless, in our data set the vast majority of professionals used a time-based revenue model. For these professionals both utilization rate and professional fee can be calculated. This gives us the opportunity to calculate the impact of the success factors on fee level (price) and utilization rate (quantity) separately, which gives an idea of the interaction between professional fees and utilization rate. The results in Tables 77 and 78 give an idea through which channels the success factors operate.

Age does not seem to impact the professional fee level, but utilization rate seem to be affected by age. Older independent professionals have lower utilization rates. So it is along the route of utilization that age impacts objective success (i.e. revenue). Gender impacts both fee and utilization. Men charge approximately 10 Euros per hour more than women, and achieve utilization rates that are about 10% points higher. Independent professionals with another source of income have an almost 18% points lower utilization rates, and charge on average almost 8 Euros per hour less than independent professionals without any alternative source of income. This might have to do with retired professionals who are prepared to ask lower fees than other professionals. The **market** is key in determining both fee level and utilization rate. Interim managers are able to ask higher fees and achieve higher utilization rates than other professionals; interim professionals also charge higher fees, but their utilization rate is more in line with the market average. Technical professionals have generally a lower fee, but compensate this with a higher utilization rate. For coaches and trainers, this is the other way round. Their fee levels are higher than average, but their average utilization rate is almost 12.5 percent lower. The other independent professionals have both a lower utilization rate and lower professional fees.

**Table 77: Determinants of professional fee level**

Factor	Coefficient	Std. Error	z-statistic
Constant	-11.61064	29.85623	-0.39
Age	0.2091731	1.060274	0.20
Age Squared	0.0052964	0.0116245	0.46
Gender	9.846619	2.639929	3.73**
Health (Self Assessment)	0.8615046	1.183588	0.73
Living In Randstad Area (Randstad = 1)	5.100519	1.993327	2.56*
Receiving Other Income (e.g. regular job)	-6.720582	2.621327	-2.56*
Interim manager (dummy)	10.79218	2.543885	4.24**
Interim professional (dummy)	10.17083	2.584111	3.94**
Journalist or Media Professional (dummy)	-16.02049	3.464494	-4.62**
Technical Professional (dummy)	-22.49179	3.641588	-6.18**
Trainer or Coach (dummy)	7.322886	2.518056	2.91*
Other free agents (dummy)	-22.39013	3.799357	-5.89**
University Education (dummy)	26.45905	3.117033	8.49**
HBO Education (dummy)	7.159249	2.753439	2.60*
Experience as a Free Agent (log)	2.591736	0.8790856	2.95**
Sum of recent training	0.1466634	0.1235125	1.19
Motivated by Autonomy and Professionalism	2.112018	0.9927222	2.13*
Motivated by Challenge and Money	-0.6834899	0.9955518	-0.69
Motivated by Work-life Balance and Flexibility	-1.118848	0.9874485	-1.13
Insight in Career (sum)	-0.2484784	0.3082465	-0.81
Open Personality (sum)	0.478116	0.3141838	1.52
Pro-active Personality (sum)	-0.4745802	0.3869707	-1.23
Business Club Member	0.2650685	1.161828	0.23
Managing the Agent	-3.766154	1.118745	-3.37**
Size of Network	4.653283	1.417282	3.28**
Network activity (sum)	12.26708	4.624695	2.65**
Partner Support (sum)	0.2030658	0.272441	0.75
Better service or low cost strategy	0.2288521	1.07175	0.21
Innovative and different strategy	2.785128	1.207833	2.31*
Industry specialization	-0.3590035	1.033764	-0.35
Broad product range	-5.42726	1.009899	-5.37**
Subjective Career Success (sum)	0.5592963	0.2030984	2.75**
Utilization rate	-4.142853	3.910291	-1.06
<b>Log likelihood</b>	<b>-5331.322146</b>	<b>Est. Method</b>	<b>ML (robust)</b>
<b>AIC</b>	<b>9.844628</b>	<b>Observations (n)</b>	<b>1090</b>

† = significant at 10% level, \* = significant at 5% level, \*\* = significant at 1% level

**Human capital** is also important in determining fee and utilization. University education has a very positive impact on fee level, with hourly fees more than 25 Euros per hour above professionals without a university or a HBO degree, but it does not impact the average utilization rate. Freelance experience has a positive impact on both utilization rate and fee level. Training does not influence the average fee level, but has a negative impact on utilization rate. Every day of recent training leads to a 0.2% lower utilization rate, which implies a reduction of about 0.4 days in invoiced days. This shows that our opportunity cost hypothesis of training effort might be valid, despite our earlier doubts Training participation comes sometimes at the expense of the

current assignment, but not always. Often a temporary slump in client demand is seen as a good training opportunity.

**Table 78: Determinants of utilization**

Factor	Coefficient	Std. Error	z-statistic
Constant	-0.2599374	0.2612066	-1.00
Age	0.0141103	0.0100017	1.41
Age Squared	-0.000205	0.0001068	-1.92†
Gender	0.115459	0.0197158	5.86**
Health (Self Assessment)	0.0095852	0.0090815	1.06
Living In Randstad Area (Randstad = 1)	0.0097228	0.0167044	0.58
Receiving Other Income (e.g. regular job)	-0.1839841	0.0201283	-9.14**
Interim manager (dummy)	0.0914094	0.0211836	4.32**
Interim professional (dummy)	0.0147402	0.0202953	0.73
Journalist or Media Professional (dummy)	-0.0769106	0.0273051	-2.82**
Technical Professional (dummy)	0.058404	0.0372904	1.57
Trainer or Coach (dummy)	-0.1339349	0.0192226	-6.97**
Other free agents (dummy)	-0.0611971	0.0309028	-1.98*
University Education (dummy)	-0.0201954	0.027693	-0.73
HBO Education (dummy)	-0.0246108	0.0268905	-0.92
Experience as a Free Agent (log)	0.0355749	0.007697	4.62**
Sum of recent training	-0.0020794	0.0008757	-2.37*
Motivated by Autonomy and Professionalism	-0.0016788	0.0084508	-0.2
Motivated by Challenge and Money	0.0189541	0.0082596	2.29*
Motivated by Work-life Balance and Flexibility	-0.0224206	0.0078579	-2.85**
Insight in Career (sum)	0.000128	0.0024542	0.05
Open Personality (sum)	0.0001223	0.0025096	0.05
Pro-active Personality (sum)	0.0010895	0.0031326	0.35
Business Club Member	-0.0127361	0.0085172	-1.5
Managing the Agent	0.0364865	0.009413	3.88**
Size of Network	0.0075377	0.0101394	0.74
Network activity (sum)	0.0709785	0.038946	1.82†
Partner Support (sum)	0.0009658	0.0019979	0.48
Better service or low cost strategy	-0.001798	0.008071	-0.22
Innovative and different strategy	-0.0034672	0.0093036	-0.37
Industry specialization	0.0223485	0.0080875	2.76*
Broad product range	0.0053245	0.008433	0.63
Subjective Career Success (sum)	0.0102391	0.0014954	6.85**
Professional Fee	-0.00027	0.000259	-1.04
<b>Log likelihood</b>	<b>-78.27564598</b>	<b>Est. Method</b>	<b>ML (robust)</b>
<b>AIC</b>	<b>0.2060104</b>	<b>Observations (n)</b>	<b>1090</b>

† = significant at 10% level, \* = significant at 5% level, \*\* = significant at 1% level

The substantial influence of **social capital** on professional fee and utilization rate is evident. Oddly enough, networking (network size and networking activity) have a stronger impact on fee level than on utilization rate. Professionals who actively manage the employment agencies (e.g. visiting multiple bureaus regularly) have lower professional fee levels (which is logical as they lose some of their fee to employment agents), but are more than compensated for this loss through a higher utilization rate.

**Motivational capital** influences both utilization rate and fee level. Independent professionals who consciously choose a freelance career for professional or autonomy reasons have (although marginally so) higher fees (2 Euro per hour). Individuals who consciously choose a freelance career for challenge and monetary reasons have a bit higher utilization rate (+ 2%) and professionals who choose a freelance career for work-life balance or flexibility reasons have a somewhat lower utilization rate (-2%).

Regarding **strategy capital**, having a distinct business strategy, grounded in innovation, has a positive influence on average fee level. Having a focused product range is also good for the professional fee level. Industry specialization does not increase the average fee level, but does increase the utilization rate of professionals.

Last, but not least, there is no significant relation between fee level, and utilization rate. This is probably because theoretically there is both a negative relationship (higher fee leads to lower demand), and a positive relationship (services with high demand can increase both fee and utilization rate) between professional fee and utilization rate. The differences in coefficients in the price (i.e. fee), and quantity (i.e. utilization rate) equations are rather telling. The above equations give an excellent look in the world of the not so scalable professional, whose production is bounded by his/her own time.

## 8.8 Out-of-sample testing

In this section we test the forecasting abilities of our standard model in section 8.2. First, the model was re-estimated using all observations of January and February (1467 observations), and then using this estimates we forecasted the career success of our March respondents. The population of the March sample was somewhat different than our standard sample (see Table 78). In the March sample the representation of IT professionals (16% versus 8%), and interim managers (39% versus 26%) was significantly higher at the expense of coaches (24% versus 32%), and trainers (10% versus 23%).

When the true observations of March were regressed on the forecast of March, this lead to an adjusted R squared of 0.44, very comparable with our earlier measures of fit over the January and February sample. In our sample the mean of the root of the squared forecasting error was 0.966. The mean absolute value of the forecasting error was 0.749. The mean absolute percentage error (MAPE) is 7.4 percent. This suggests that the forecast is very good, as a value of zero implies

perfect fit between forecast and realization. The comparison of our forecasted errors, with the standard error of the residuals of our standard regression (0.872) is also favorable, and suggest that the model performs well out of sample.

**Table 79: Respondents of survey on two dates**

Respondents	Dataset March 1	March Data	Dataset April 1
Total respondents who read introduction page	2,851	295	3,146
Total respondents who actually started survey	1,773	208	1,981
Total respondents who fully completed survey	1,483	129	1,612
Total respondents after data cleansing	1,467	125	1,592

The mean squared forecast error can be decomposed in three parts, as can be seen in the following equation:

$$(2) \quad \sum (\hat{y}_t - y_t)^2 / h = ((\sum (\hat{y}_t / h) - \bar{y})^2 + (s_{\hat{y}} - s_y)^2 + 2 \cdot (1 - r) \cdot (s_{\hat{y}} s_y))$$

In which  $h$  is the number of forecasting variables,  $\hat{y}$  is the forecast and  $y$  the real observed measure.  $\sum \hat{y} / h$ ,  $\bar{y}$ ,  $s_{\hat{y}}$ ,  $s_y$  are the means and standard deviations of  $\hat{y}$  and  $y$ , and  $r$  is the correlation between  $\hat{y}$  and  $y$ . The total proportions can be scaled by dividing the above equation by the left hand side of the equation. This decomposes the forecasting error in 3 proportions: 1) a bias proportion, 2) a variance proportion, and 3) a covariance proportion (see Table 80). The bias proportion tells us how far the mean of the forecast is from the mean of the actual series. The variance proportion tells us how far the variation of the forecast is from the variation of the actual series. The covariance proportion measures the remaining unsystematic forecasting errors.

**Table 80: Forecasting measures**

Proportion	Definition	Objective success	Subjective success
Bias Proportion	$\frac{(\sum \hat{y} / h) - \bar{y}}{\sum (\hat{y} - y)^2 / h}$	0.001	0.011
Variance Proportion	$\frac{(s_{\hat{y}} - s_y)^2}{\sum (\hat{y} - y)^2 / h}$	0.299	0.156
Covariance Proportion	$\frac{2(1 - r)s_{\hat{y}}s_y}{\sum (\hat{y} - y)^2 / h}$	0.699	0.833

Table 80 above shows that the mean bias of our forecast is very low, as is also visible from our earlier results and Theil's inequality measure (0.044). The results show that the forecasting error is largely unsystematic, but that some of the forecasting error is due imperfect forecast of variance.

The latter is also clear from the standard deviations of the forecast (0.76) and the realizations (1.29).

The same forecasting techniques were used to forecast subjective freelance career success. The mean of the root of the squared forecasting error is here 0.202. The mean absolute value of the forecasting error is 0.137. The mean absolute percentage error (MAPE) is 4.3% and Theil's coefficient was 0.029. The true observations were also regressed on the forecast using the observations of the March sample. The adjusted R-squared is 0.27, again very comparable with our earlier measures of fit over the January and February sample. This all leads to the conclusion that our model has good out-of-sample forecasting abilities.

### ***Conclusions of Chapter 8:***

1. Market factors largely determine freelance revenue (45% of explained variance). The second most important factor for freelance success is human capital or knowledge (26%), followed closely by social capital or networking efforts (21%). Other potential success factors, such as: motivational capital (5%), business strategy (3%), and personality traits (1%), proved to be much less important.
2. Surprisingly, the factors which determine freelance career satisfaction are totally different from the factors which determine freelance revenue. Career satisfaction is driven by personality factors (36%), firm strategy (26%) and social capital (21%). Human capital (3%), motivational capital (7%) and market factors (6%), so crucial in explaining freelance revenue, are not very essential in explaining freelance career satisfaction.
3. The lack of direct influence might be explained by the indirect influence of personality on variables, such as: strategy and social capital.
4. There are small, but significant differences in the success drivers per profession. For example, and contrary to our expectations, social capital proved not to be important for interim managers and trainer/coaches. But human capital is. It is the other way round for journalists. Here social capital is important, but human capital is not.
5. There is a trade-off between career satisfaction and career revenue when a freelancer chooses a business strategy. Focused business strategies, such as: focus on a single product, single client or single industry, have a positive effect on freelance revenue. But freelancers who offer a broad range of services and freelancers who develop innovative and different services, have a higher level of career satisfaction.
6. There are significant differences between men and women, but the drivers of career success of men and women are practically the same. The most striking differences is age. Whereas age is very important for men, it is not important at all for women. This is probably because women tend to increase their working efforts in their 40s, when the children need less care.