



## Feeling good, being good and looking good: Motivations for, and benefits from, project management certification

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### Abstract

Project management (PM) is one of many occupations following a path to professionalization that includes voluntary certification. It has been said that certification, and especially voluntary certification, can be seen as an approach to *being good* by improving our competence in the profession, or a means to *looking good*, essentially signaling the capabilities of the holder. Based on self-determination theory, we contribute to this discussion the notion of *feeling good* whereby certification provides a way to challenge one's capabilities, provide self-actualization, and a sense of worth. Using two sets of survey responses, collected 10 years apart (2004 and 2014), we assess whether there are differences in the demographics of those seeking voluntary project management certification, and the motivations (expected benefits), and realized benefits associated with this certification, at these two points in time. Demographically, the people with certification and those not pursuing certification did not exhibit any significant differences in either time period. Analyses indicate that feeling good and being good are the main motivators but participants pursuing certification in 2014 reported lower levels of motivations and received more benefit than those in 2004. Comparing responses as to why professionals pursue voluntary PM certification across a decade span, gives us an indication of how these perceptions may be changing with the increased popularity of the certification. We compare these findings to similar studies examining other volunteer certifications and conclude by discussing the potential impact of these changes from the perspective of the individuals seeking certification, the occupation, and certifying organizations.

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### 1. Introduction

Voluntary certification has been a growing phenomenon in a number of fields that has only recently given rise to interest with respect to its impact on our understanding of professions and career development. Voluntary certification is now well established in such fields as purchasing and logistics, IT Management, human resource management, and project management (PM). In 2006, Hansen estimated that there were over 1600 voluntary certifications offered in the United States

alone. In contrast to more established professions (e.g. law, accounting, teaching), where one is not allowed to practice unless one is certified (licensed), these varied professionals make a decision to pursue certification after assessing the perceived costs and benefits associated with the decision (Lipner et al., 2006). However, there are few studies which systematically investigate the internal and external stimuli for voluntary certification (see for example, Byrne et al., 2004; Lester and Dwyer, 2012) and empirical research on the value of voluntary certification is equally rare (Aguinis and Lengnick-Hall, 2012). Likewise, there are very few studies examining the realization of expected benefits from such voluntary certification (Fertig et al., 2009; Morris et al., 2006a).

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This study addresses this gap in our understanding of the growth of voluntary certification. Using two samples of certified project managers, we examine the motivation for, and benefits received from, PM certification. We conducted surveys in 2004, and again, in 2014, collecting information on why people sought out certification and what they thought they gained from the process. Looking at the two sets of data, at two points in time, allows us to observe changes in motivations and benefits over a decade which witnessed unprecedented growth in this particular certification, and in voluntary certification in general. Drawing on self-determination theory (Deci and Ryan, 2000), and empirical studies from a variety of emerging professions (such as nursing, accounting, human resources, and communications), we interpret these changes to provide insights into the future of PM certification. These insights are important to PM practitioners, organizations employing project managers, and the professional associations that have established themselves as the global sources of PM knowledge as well as other occupations following the voluntary certification path.

## 2. What is voluntary certification and why is it important

Certification can be defined as “any type of recognized third-party assessment: professional certification, certification by occupational associations or union apprenticeship programs, proprietary certification, voluntary certifications provided by independent bodies, and certificates from reputable skill training agencies” (Fertig et al., 2009). Voluntary certification is different from occupational licensing (Wiley, 1995), as the latter is mandatory and required by law to practice a particular occupation such as law, accounting or medicine. Voluntary certification of employee competencies is a rapidly growing and widespread occupational practice in most western labor markets (Hordern, 2015; Wilkinson et al., 2016). This type of certification is growing at an accelerated rate (Higgins and Hallström, 2007; Carter, 2005) in the 21st century.

Certification is often presented as a way to attest to worker competency, foster employee development, and ultimately improve work performance (Richardson, 2016; Kleiner, 2006; Phillips, 2004). In many ways, it is often presented as an uncontroversial good for both employees and organizations (Shackman, 2015; Lengnick-Hall and Aguinis, 2012). Certification is often considered a step on the road to professionalization of any occupation. According to the Trait Theory of professions (Wilensky, 1964), the professionalization of an occupation normally entails the development of certain traits including development of a body of knowledge, distinguished skills, documented training, controlled entry (through certification and or licensing), and ethical rules of behavior (Higgins and Hallström, 2007). However, recent research (Albert, 2017; Haskins et al., 2011; de los Ríos et al., 2010; Varma et al., 2006) has also identified a set of alternative reasons for pursuing certification, including sometimes as a symbol to use in impression management, to acquire legitimacy, and to improve reputational capital without actually changing practices or performance.

### 2.1. Voluntary certification in PM

Voluntary certification in PM has expanded rapidly in the last 30 years (Pinto and Winch, 2016). In 1984, PMI introduced the world’s first certification program for project managers. Other project management professional associations quickly joined the certification effort. IPMA introduced its certification in the early 2000s (Foti, 2001). These PM professional associations positioned certification as a credential that sets the project management professional apart from other non-certified applicants in terms of project management competences and as a first step on the road to professionalization (Blomquist and Söderholm, 2002). PM associations for many years followed a stated goal of professionalization. Project managers have been encouraged to adopt professional attitudes towards project management to facilitate the creation of a project management profession (Blomquist and Thomas, 2008; Hodgson and Paton, 2016; Pollack and Algeo, 2015; Zwerman and Thomas, 2001; Zwerman et al., 2004). In fact, until 2004, the tag line of the Project Management Institute (PMI) was *building the profession*.

Many PM professionals have embraced certification as evidenced in Fig. 1. Clearly, the perceived benefits of certification have captured the interest and attention of many practitioners who have chosen to invest in certification.

This growth suggests that many project managers perceive attaining PM certification as a beneficial move. Today, PM certification is voluntary (although there are moves towards making it a regulated profession in the UK<sup>1</sup> and possibly other jurisdictions) rather than required to practice.

In the PM world, certification is taken to “denote mastery of these [PM] skills, experiences, and knowledge” (Starkweather and Stevenson, 2011) and “is an important tool for maintaining and developing competencies for project requirements” (Loufrani-Fedida and Saglietto, 2016). Despite PMI’s continued assertion, consistent with the licensure versus certification distinction, that certification only provides evidence that an individual has met a specified minimum standard to practice, both academics and practitioners continue to assert that certification denotes a mark of endorsement that the individual is fit to practice (Ramazani and Jergeas, 2015). Even more, the underlying message is that this individual is MORE fit to practice than someone who is not certified. This conflation of certification with competence continues even in PMI’s web advertising circa Feb 2017 where they lead with the claim that certification equates with expertise as in the following headline “We serve practitioners and organizations with standards that describe good practices, globally recognized credentials that certify project management expertise and resources for professional development, networking and community”. Despite these assertions and beliefs, the claim of professionalization of the PM occupation through certification needs to be supported empirically. Furthermore, studying perceived motivations for, and realized benefits of, certification, from the eyes

<sup>1</sup> See Association of Project Management Announcement here: <https://www.apm.org.uk/news/apm-receives-its-royal-charter>

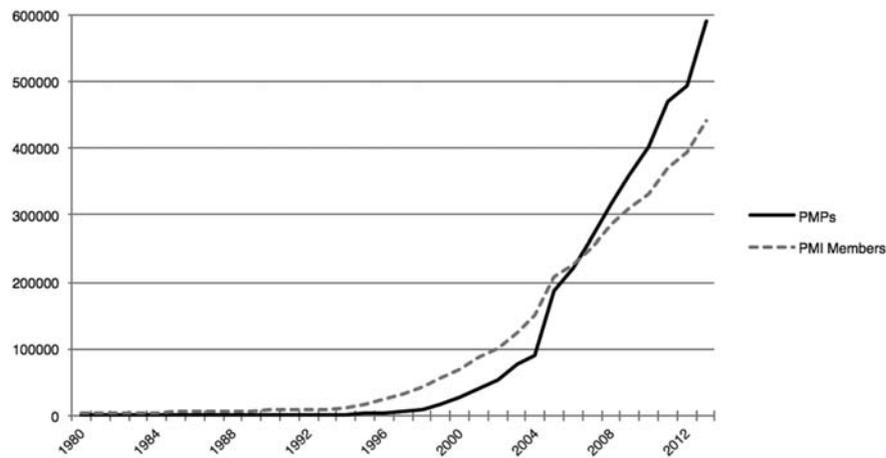


Fig. 1. Growth in PMP certification 1984–2014. Source: Figures compiled by data provided by Collin Quiring on blog EPMstrategy from PMI publications.<sup>1</sup> <http://www.epmstrategy.com/pmi-membership-and-pmp-certification-by-the-numbers/>.

of individual project managers, is of key importance for the field. Project managers are the end user of the PM prescriptions promoted by professional associations and certifying bodies, and their perceptions of the value of certification and the results of being certified provide us with critical insights into the future of the occupation, PM standards, and certifications.

Clearly, empirical research is important for all stakeholders in the field of project management in order to make effective decisions about personal and organizational investments in certification. This study examines the effects of individual characteristics on the likelihood of an individual to seek certification, the motivation and benefits received from certification, and any changes in these perceptions over a 10-year period.

### 3. Research framework – certification, motivation and benefits

There is a significant body of behavioral research that we can use to provide a framework for exploring the types of benefits that might motivate professionals to seek out certification. In particular, there is much research on both intrinsic (such as professional challenge and strengthening practice) and extrinsic motivations (such as monetary incentives or prestige) for action and their results (e.g. Krause, 2014; Lee et al., 2015). To understand and measure motivations, we rely on insights from self-determination theory (SDT) (Deci and Ryan, 2000). SDT itself synthesizes a number of behavioral theories (see Sachau, 2007), has been empirically tested over a significant period of time, and ultimately provides a sophisticated analysis of the various types of motivations. We apply SDT theory to help us identify motivations at play in the decision to seek voluntary PM certification.

Previous research on certification suggests that certification serves the holder mainly in two ways. The difference between these two ways lies within the type of motivation people have for acquiring it. The first type of motivation for certification is associated with a desire to *be good* while the second is associated with a desire to *look good* (Lester and Dwyer, 2012;

Fertig et al., 2009). Being good emphasizes that a well established system of certification can develop knowledge and skills of the certificant and the certificant would have a higher level of professional attitude and job performance. Looking good considers certification as a signal in the job market that quickly and effectively transmits information about the capabilities of the certificant to the potential employer. The desire to achieve higher levels of payment, prestige, and better career opportunities are also related to looking good. Looking good reflects extrinsic motivations. Looking at the motivations for certification through a SDT lens, we extend this categorization by identifying a third type of potential motivation, *feeling good*, to those identified by earlier researchers, *being good* and *looking good*. Feeling good motivations are clearly intrinsic in nature.

As shown in Fig. 2, SDT extends the simple dichotomy between extrinsic and intrinsic motivations and proposes that motivations form a continuum. Different types of motivations in the continuum vary significantly in terms of their integration with self. SDT includes the state of amotivation, which reflects lack of intention to act (Ryan and Deci, 2000). Since our analysis of motivations only includes the participants with certification, and PM certification is voluntary in nature, this state is excluded in our study. There is no way to unintentionally get certified.

As shown in Fig. 2, SDT elaborates different types of motivations in three groups of internal, external and in-between (somewhat internal, somewhat external). Internal motivation lies in the behavior itself. Internal motivation is either intrinsic (doing the activity because it is inherently enjoyable, satisfying or challenging) or integrated regulation (motivations which are completely internalized and perceived as an activity's value) (Deci and Ryan, 1985). External motivations, by contrast, are influenced by external contingencies and controlled by environmental factors through social or material rewards or punishment mechanisms (Deci et al., 2017). SDT distinguished two types of external motivation: introjected and external regulations. Externally regulated motivations are those that are the outcome of the activity and are completely separable from

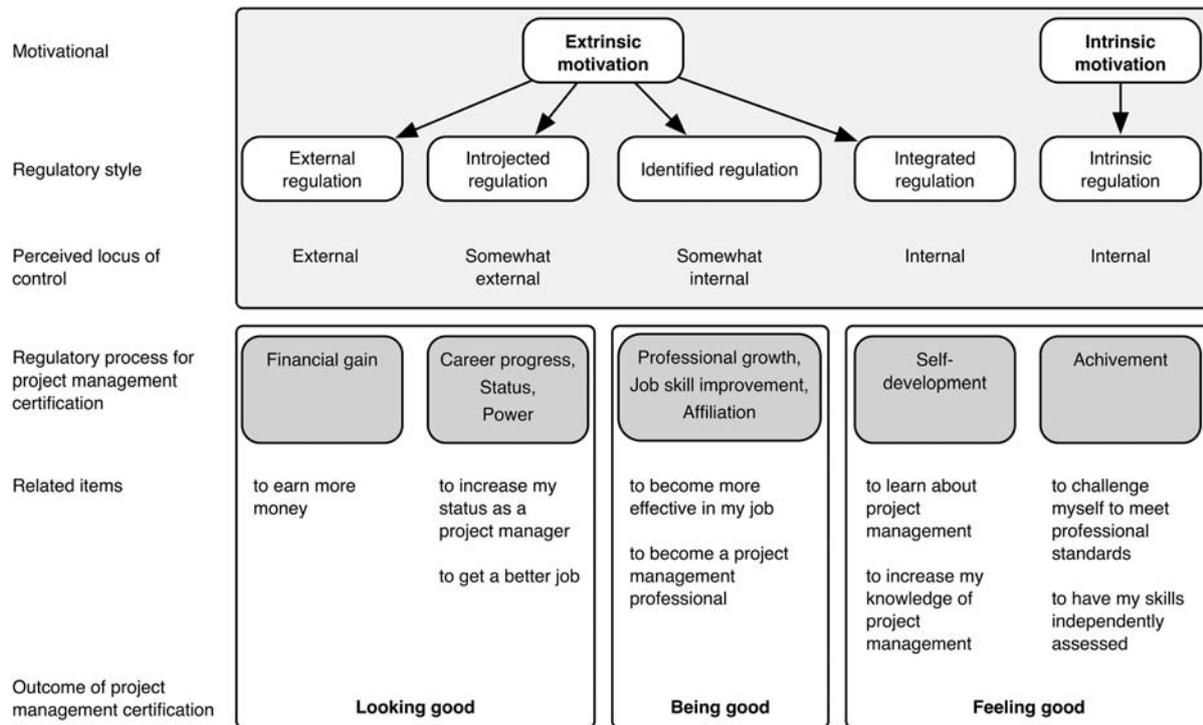


Fig. 2. Motivation for project management certification based on self-determination theory.

the activity. Introjected regulation is somewhat more self-controlled and refers to being focused on approval versus disapproval in the job (Gagné et al., 2010). Introjected motivation is self-controlled by processes such as self-esteem, ego-involvement, as well as concerns with status and recognition (Deci et al., 2017). The third group, which lies between of external and internal motivations, includes identified regulated motivations. Identified regulation, refers to consciously valuing the target behavior and accepting it as a personally, as well as socially, important behavior and leads to wholehearted engagement. Doing homework because of the enjoyment of doing it, or the value that a student puts on knowledge, are examples of internal (intrinsic and integrated) motivations. Doing homework because of fear of failing the exam, or due to adherence to parents' control, is an externally motivated behavior (extrinsic or introjected). Doing homework because the student understands the role of study in realization of her dream job and future is an example of identified regulation (Deci and Ryan, 2000).

In the context of our study, internal motivators include the need to challenge one's abilities (achievement) and the desire to learn and valuing knowledge about PM (self-development). Achievement and self-development are internal forces to pursue a certificate and attaining the certification itself satisfies the need for achievement and self-development (learning). Therefore, they are considered internal motivators. Gaining new skills to improve performance at work (improved job skills), joining a community of project managers (affiliation) or identification as a professional project manager (professional growth) are associated with identified regulation. External

motivators to obtain a certification are focused on external mechanisms of reward and punishment and those associated with self-esteem, ego-involvement, as well as status and recognition. External motivators in PM certification context include, acquiring better jobs and better positions (career progress), attaining higher levels of recognition (status) and influence (power) in the organization and higher levels of payment (financial gain). We label internal motivation with feeling good, as internal motivations are completely internalized and tied to the person's joy and satisfaction. Identified regulation is related to the professional identity of the project manager and the performance, therefore we label them being good. External motivations are refer to the success of the project manager in career activities, and the level of status and payment, therefore is related to looking good. See Fig. 2 for a diagram depicting these relationships.

### 3.1. Research questions

On the basis of the discussion above, it can be concluded that project managers choose to pursue a professional certification for different reasons which mainly can be divided into the three categories of feeling, being and looking good motivations. Consequently, we might expect that they receive different types of benefits from certification. Identifying the main motivators and benefits will offer us a better understanding of the value of certification in the minds of project managers. The following research questions are addressed in this study:

*Research Question 1: Are there any demographic differences between certified and not certified project managers?*

*Research Question 2: What are the main motivators of project management certification (feeling good, being good or looking good)?*

*Research Question 3: What are the main benefits of project management certification?*

This study examines the motivation for certification as evidenced by the expectations project managers hold of the certification and the benefits they expect to receive from attaining it. The benefits realized are defined as the perceived benefits associated with attaining the certification. The gap between motivation and benefits, is a proxy for the degree of satisfaction project managers hold with the certification. A level of benefit higher than the corresponding level of motivation means that the expectations are met and leads to higher satisfaction with the certification. The following research question investigates the gap and the distance between expectation and reality.

*Research Question 4: How big is the gap between motivations (expected benefits) and realized benefits?*

Furthermore, it is interesting to observe the trend of changes in the level of motivations for and benefits realized from certification between 2004 and 2014. This will provide us with insights on the level of professional associations' progress and the valence of professional standards over time.

*Research Question 5: How have the main motivators and realized benefits changed for the period 2004–2014?*

*Research Question 6: How has the gap between motivation and benefits changed between 2004 and 2014?*

## 4. Methods

### 4.1. Data collection procedures

Data was collected for this study using a web based survey conducted at two points in time, 2004 and 2014. An email containing the link to an online survey was sent to project managers identified from the researchers' project manager mailing lists, or to project management association chapter presidents around the world asking them to provide the survey link to their membership. This must be recognized as an opportunistic, and potentially biased sample, in that it is drawn from a set of people interested enough in project management to either belong to a project management association, or to submit their name to participate in project management research. However, given that we are interested in the opinions of project managers, these are two of the best available channels to access these individuals. Another potential source of bias comes from the use of a web based survey.

After asking about respondent's demographics, the survey inquired whether the project manager is certified or not. Project managers with at least one certification were directed to answer

the survey questions regarding motivations and benefits for attaining certification. Therefore, motivations for certification, and the benefits of attaining it, are reported only by certified managers. This makes the self-reported responses more valid, since the certified managers have sensed the real motivations, and experienced and witnessed the benefits of certification, in their career. However, it also introduces the potential for bias introduced by this sample's potential desire to justify their decision to seek certification.

### 4.2. Samples

The sampling framework for this study is quite complex. The first survey was administered during the spring of 2004 and the second survey occurred ten years after the initial data collection, in the spring of 2014, using the same survey instrument. A total of 435 and 598 surveys were returned for 2004 and 2014 respectively. It should be noted that we did resample those of the 2004 study who permitted us to retain their emails on file for future research and kept their email. Thus, 55 of the 2014 sample also participated in the 2004 study. We conducted a mean difference tests to identify any similarities and differences between those who responded in both years and those who only participated in one period. We found no significant differences. Future research will explore the differences in responses between the 84 dual samples individuals. Given that the resample individuals make up a small proportion of those sampled in 2014 and that we found no significant differences among these samples, we can assume that two samples are independent for the purposes of this paper. This paper explicitly looks at the two samples from 2004 and 2014 as if they are independent as per this assumption.

Out of 435 project managers participating in the 2004 survey, 241 (55%) were certified and 194 (45%) were non-certified. Out of 598 project managers participating in the 2014 study, 472 (79%) were certified and 126 (21%) were non-certified. This study focuses on the certified project managers except for testing for demographic differences between the certified and uncertified project managers in both periods. Demographics of our participants are presented in [Table 1](#). The respondents in both samples are mainly male, certified and educated.

We collected this data from project management professionals around the world. We anticipated finding cross-cultural differences resulting in variation in the results and affecting the generalizability of the findings. For instance, the concept of benefit could be different in a long-term oriented culture than a short-term oriented culture or the importance of power and status as a motivator might vary in cultures with different levels of power distance. However, we did several analyses using region as a cross-cultural factor (Europe vs. North America vs. Scandinavia) and were not able to identify any significant differences and the sample showed same pattern of results across all three regions ([Blomquist et al., 2016](#)). Our findings reflect those of research suggesting that national culture is becoming increasingly less meaningful due to globalization and often the unit of analysis in international research includes a

Table 1  
Descriptive analysis of the participating project managers.

	2004 (n = 435)		2014 (n = 502)	
	Certified (n = 241)	Non-certified (n = 194)	Certified (n = 472)	Non-certified (n = 126)
	%	%	%	%
Gender				
Female	25	20	28	25
Male	75	80	72	75
Age				
Until 29	1	1	2	6
30–39	21	14	16	13
40–49	35	37	33	34
50–59	35	37	35	23
60 and over	8	11	14	24
Certification				
PMI	96	–	53	–
IPMA	4	–	34	–
Prince II	–	–	24	–
Other <sup>a</sup>	–	–	13	–
Year of PM experience				
<1	1	1	2	2
1–5	19	8	11	12
6–10	35	20	23	15
11–15	22	21	24	16
16–20	15	18	17	18
21 and more	8	32	23	37
Education				
High school diploma	2	2	3	0
College/technical degree	16	22	10	13
Bachelor degree	27	24	16	19
Graduate degree	55	51	71	68

<sup>a</sup> Including scrum certifications, organizational project management maturity model (OPM3), Postgraduate PM certification.

smaller, more homogenous group across various countries (Craig and Douglas, 2011). This is especially true for our sample as project management standards to a great extent promote universal solutions.

#### 4.3. Measures

Based on SDT theory, the authors developed constructs for each type of motivation. The measures were developed by reviewing similar research on voluntary certification (e.g. Lehr and Rice, 2002 on auditing; Byrne et al., 2004 on nursing). Using this work as a foundation, we developed a second-order construct for motivation for PM certification. Tables 2a and 2b show the structure of the motivation construct and the items. Motivation for certification is construed as follows: a) feeling good motivation includes achievement and self-development; b) being good motivation includes professional growth, job skill improvement and affiliation; and c) looking good motivation includes career progress, financial gain, power and status. For benefit constructs, we used similar structure and items as used for motivation. In this fashion, we are able to directly compare benefits to the associated motivations.

Tables 2a, 2b, 3a and 3b show the result of conducting confirmatory factor analyses (CFA) on second-order motivation and benefit constructs. At first, power and status were considered two separate constructs, but the result of divergent construct validity test for power and status was not satisfactory; therefore, we made one construct out of the two. The loading factor of indicators on the designated motivation or benefit construct are >0.60 except for two items. Therefore, career progress motivation and benefits (indicators 28 in Tables 2a and 3a) were deleted. The composite reliability and Cronbach's alpha are >0.70 (except the alpha for self-development motivation and achievement motivation, which are >0.60), indicating reliability of the measures. AVE (Average Variance Extracted) is >0.50, indicating convergent validity of the constructs. The square correlation of any two indicators of each construct was less than AVE of the construct (Hair et al., 2016) indicating satisfying condition for Fornel-Larcker criterion for discriminant validity. Furthermore, the heterotrait-monotrait (HTMT) values are lower than 0.85 for all constructs (Henseler et al., 2015). All criteria are met for the second-order constructs as well. Therefore, the reliability and validity of the measures are established.

#### 4.4. Analysis

After evaluating the reliability and validity of measures, the levels of motivation and benefits were calculated by making a summated score of indicators. Two-sample *t*-tests were used to compare the demographics of certified and non-certified project managers in both samples. The demographic variables included: years of experience, age, gender, level of education, and level of certification. Similarly, two-sample *t*-tests were used in order to compare the levels of motivation in 2004 and 2014, and to compare the levels of benefits in 2004 and 2014. In order to compare the level of motivation with the level of associated benefits in each sample, paired *t*-tests were used since each project manager reported both motivations and benefits.

### 5. Results

To respond to research question (RQ) 1, we used *t*-test analysis to evaluate the significant demographic differences between the two groups of certified and noncertified managers. Looking at age, gender, educational level, and years of PM experience, we found only one significant difference between certified and non-certified project managers, in either 2004 or 2014, the number of years of working with the current employer, which is negatively associated with the certification in both periods. The certification might be viewed as a tool for progress in career through offering greater employability and professional identity (Cowen and Hodgson, 2015) and therefore, the project managers who are loyal to one organization and have job security would be less inclined to pursue certification.

We also tested for differences related to participants' level of certification (Advanced versus Basic). For 2014, out of the 472 certified 344 did respond on the type of certification, 104 with

Table 2a  
Motivation measure and results of reliability and validity test.  
The first order constructs.

2nd order	1st order	Indicators <sup>a</sup>	Motivation for certification							
			Loading		α		AVE		CR	
			2004	2014	2004	2014	2004	2014	2004	2014
Feeling good	Achievement	1. to challenge myself to meet professional standards	0.70	0.70	0.67	0.70	0.50	0.53	0.80	0.82
		2. to have my skills independently assessed.	0.79	0.82						
		3. to prove that I can do it	0.67	0.70						
		4. to provide evidence of a level of proficiency in project management	0.66	0.97						
	Self-development	5. to learn about project management	0.81	0.82	0.70	0.69	0.63	0.63	0.83	0.83
		6. to increase my knowledge of project management	0.87	0.90						
Being good	Affiliation	7. to support my continuing education objectives	0.69	0.64						
		8. to network with other project managers	0.87	0.89	0.82	0.85	0.73	0.77	0.89	0.91
		9. to meet new people	0.88	0.90						
	Professional growth	10. to learn from others	0.82	0.86						
		11. to become a project management professional	0.74	0.75	0.74	0.77	0.66	0.69	0.86	0.87
		12. to signal my commitment to project management	0.84	0.82						
	Job skill improvement	13. to signal my commitment to my career	0.84	0.83						
		14. to become more effective in my job	0.91	0.90	0.90	0.88	0.84	0.81	0.94	0.93
		15. to improve my ability to manage projects	0.93	0.92						
		16. to help me make better decisions	0.90	0.89						
Looking good	Status and power	17. to increase my status as a project manager	0.69	0.80	0.81	0.81	0.52	0.63	0.86	0.83
		18. to signify a higher level of competence than other project managers	0.64	0.74						
		19. to improve my visibility within company	0.69	0.67						
		20. to have line managers listen to my recommendations	0.80	0.67						
		21. to increase my credibility as a project manager	0.76	0.74						
		22. to demonstrate my ambition	0.71	0.69						
	Career Progress	23. to get a better job	0.88	0.87	0.84	0.80	0.67	0.55	0.89	0.86
		24. to earn a promotion	0.88	0.81						
		25. to become more marketable for other jobs	0.76	0.74						
		26. to increase my external mobility	0.75	0.76						
		27. to keep my job	0.69	0.68						
	Financial gain	28. to satisfy my boss <sup>b</sup>	0.48	0.48						
		29. to earn more money	–	–	–	–	–	–	–	–

α = Cronbach’s internal reliability coefficient; CR: Composite Reliability, AVE: Average Variance Extracted.

<sup>a</sup> Questions were asked as follows: “All of the following statements describe reasons why individuals may choose to become certified project manager. Please examine each statement and rank its influence on your decision to seek certifications. I chose to seek PM certification ... (1: no influence; 2: little influence; 3: moderate influence; 4: significant influence; 5: great influence).”

<sup>b</sup> Item was deleted due to low loading of the indicator on the construct (<0.60).

an entry level certificate and 240 with an advanced level certificate. The difference in motivations and benefits between holders of entry and advanced certification are insignificant for

all but the benefit of affiliation which is significantly higher for those with the advanced certification ( $M_{\text{entry-level}} = 3.45 < M_{\text{advanced}} = 3.72, p = 0.004$ ).

Table 2b  
Motivation measure and results of reliability and validity test.  
Second order constructs.

2nd order	1st order	Motivation for certification					
		Loading		AVE		CR	
		2004	2014	2004	2014	2004	2014
Feeling good	Achievement	0.74	0.76	0.60	0.64	0.75	0.78
	Self-development	0.80	0.83				
Being good	Professional growth	0.74	0.75	0.56	0.55	0.79	0.79
	Job skill improvement	0.78	0.74				
Looking good	Affiliation	0.73	0.74				
	Status and power	0.83	0.85	0.70	0.67	0.87	0.86
	Career progress	0.79	0.77				
	Financial gain	0.89	0.84				

Table 4 shows the level of motivation and benefits in 2004 and 2014, and can be used to respond to RQ2 and RQ3. In both 2004 and 2014, achievement, self-development, professional growth and job skill improvement are the top motivators. The level of motivation for financial gain, career and power/status is the lowest in both 2004 and 2014. Feeling good motivation is significantly higher than being good motivation (2004:  $d = 0.24, p < 0.001$ ; 2014:  $d = 0.29, p < 0.001$ ) and being good motivation is significantly higher than looking good motivation (2004:  $d = 0.22, p < 0.001$ ; 2014:  $d = 0.16, p < 0.001$ ). The exact same pattern repeats for benefits. Both in 2004 and 2014, achievement, self-development, professional growth and job skill improvement are the benefits managers receive the most, and benefits regarding career, power/status and higher salary are the least realized ones. Feeling good benefits are significantly higher than being good benefits (2004:  $d = 0.23,$

Table 3a  
Benefit measure and results of reliability and validity test.  
The first order constructs.

2nd order	1st order	Indicators <sup>a</sup>	Benefit for certification							
			Loading		α		AVE		CR	
			2004	2014	2004	2014	2004	2014	2004	2014
Feeling good	Achievement	1. to challenge myself to meet professional standards	0.80	0.74	0.76	0.74	0.57	0.56	0.84	0.83
		2. to have my skills independently assessed.	0.79	0.79						
		3. to prove that I can do it	0.66	0.67						
		4. to provide evidence of a level of proficiency in project management	0.71	0.78						
	Self-development	5. to learn about project management	0.79	0.80	0.72	0.67	0.64	0.61	0.84	0.82
		6. to increase my knowledge of project management	0.90	0.86						
Being good	Affiliation	7. to support my continuing education objectives	0.71	0.68						
		8. to network with other project managers	0.91	0.86	0.90	0.83	0.83	0.61	0.83	0.82
		9. to meet new people	0.93	0.89						
	Professional growth	10. to learn from others	0.88	0.85						
		11. to become a project management professional	0.88	0.86	0.80	0.77	0.71	0.69	0.88	0.87
		12. to signal my commitment to project management	0.88	0.84						
	Job skill improvement	13. to signal my commitment to my career	0.78	0.79						
		14. to become more effective in my job	0.91	0.91	0.90	0.90	0.84	0.83	0.94	0.94
		15. to improve my ability to manage projects	0.94	0.93						
		16. to help me make better decisions	0.90	0.90						
Looking good	Status and power	17. to increase my status as a project manager	0.72	0.76	0.85	0.83	0.57	0.55	0.89	0.88
		18. to signify a higher level of competence than other project managers	0.77	0.79						
		19. to improve my visibility within company	0.67	0.80						
		20. to have line managers listen to my recommendations	0.80	0.71						
		21. to increase my credibility as a project manager	0.80	0.75						
		22. to demonstrate my ambition	0.75	0.62						
	Career progress	23. to get a better job	0.79	0.79	0.83	0.82	0.59	0.58	0.88	0.87
		24. to earn a promotion	0.85	0.78						
		25. to become more marketable for other jobs	0.81	0.74						
		26. to increase my external mobility	0.71	0.78						
	Financial gain	27. to keep my job	0.66	0.65						
		28. to satisfy my boss <sup>b</sup>	0.53	0.53						
		29. to earn more money	–	–	–	–	–	–	–	–

<sup>a</sup> Questions: All of the following statements describe benefits individuals may receive as a result of becoming a certified project manager. Read each benefit statement and indicate the degree to which you agree or disagree to the statement. The project management certification process helped me... (1: strongly disagree; 2: disagree; 3: neutral; 4: agree; 5: strongly agree).

<sup>b</sup> Item was deleted due to low loading of the indicator on the construct (<0.60).

p < 0.001; 2014: d = 0.23, p < 0.001) and being good benefits are significantly higher than looking good benefits (2004: d = 0.52, p < 0.001; 2014: d = 0.37, p < 0.001).

Table 3b  
Benefit measure and results of reliability and validity test.  
Second order constructs.

2nd order	1st order	Benefit for certification					
		Loading		AVE		CR	
		2004	2014	2004	2014	2004	2014
Feeling good	Achievement	0.85	0.84	0.75	0.70	0.86	0.82
	Self-development	0.88	0.83				
Being good	Professional growth	0.72	0.79	0.59	0.59	0.81	0.81
	Job skill improvement	0.84	0.80				
Looking good	Affiliation	0.74	0.71				
	Status and power	0.86	0.86	0.74	0.72	0.89	0.88
	Career progress	0.90	0.88				
	Financial gain	0.82	0.80				

Fig. 3 demonstrates the level of motivations and benefits in 2004 and 2014. The numbers are the mean of project manager's responses which can range from 1 to 5. The presented data can be used to respond to RQ5. As illustrated in Fig. 3, in general, the level of motivation for certification has decreased and the level of benefits of certification has increased in 2014. Feeling good motivation (d = 0.160, p = 0.002), being good motivation (d = 0.209, p = 0.001) and looking good motivation (d = 0.148, p = 0.020) are all significantly higher in 2004 than 2014. However, this trend is reversed for benefits, and the benefit levels are higher in 2014 than 2004. Evaluating the significance of the increase in benefits, only the looking good benefit (d = 0.223, p = 0.000) is significantly higher in 2014 and the 2004–2014 difference of feeling good benefit (d = 0.070, p = 0.16) and being good benefit (d = 0.071, p = 0.20) is insignificant. As shown in Table 4, the decrease of motivations and increase of benefits in recent years is true for the first order constructs as well. The only exception is job skill improvement which shows an insignificant decrease in benefits (p = 0.17).

Table 4  
Motivations for and benefits of project management certification (2004–2014).

Certification		Motivation				Benefit			
		2004		2014		2004		2014	
Feeling good	Achievement	3.944	3.951	3.783	3.920	3.912	3.931	3.982	4.040
	Self-development		3.928		3.604		3.880		3.903
Being good	Professional growth	3.702	3.902	3.493	3.756	3.684	3.814	3.755	3.865
	Job skill improvement		3.826		3.539		3.807		3.705
	Affiliation		3.222		3.030		3.302		3.674
Looking good	Power/status	3.477	3.460	3.329	3.396	3.158	3.517	3.381	3.644
	Career progress		3.576		3.324		3.272		3.471
	Financial gain		3.180		2.944		2.294		2.725

The gap between what one expects to gain through certification (the level of motivation) and what the person actually receives from certification plays a significant role in how project managers feel about their certification and about the reputation the certification gains over time. To get at this

gap, in order to answer RQ4, we looked for statistically significant differences between motivations and benefits as documented in Table 5.

The final research question (RQ6) concerns the changes in the motivation-benefit gap during the 2004–2014 period. Fig. 4 illustrates the changes in the gap. In 2004, the level of expectations (motivations) and received benefits, regarding feeling good and being good, are equal but received benefits regarding looking good is less than expectations. In 2014, the level of received benefits regarding feeling good and being good is significantly higher than the level of motivations and the levels of benefit and motivation regarding looking good are equal. In general, the higher level of benefits in 2014, suggests the project managers are more satisfied with certification in 2014 than in 2004.

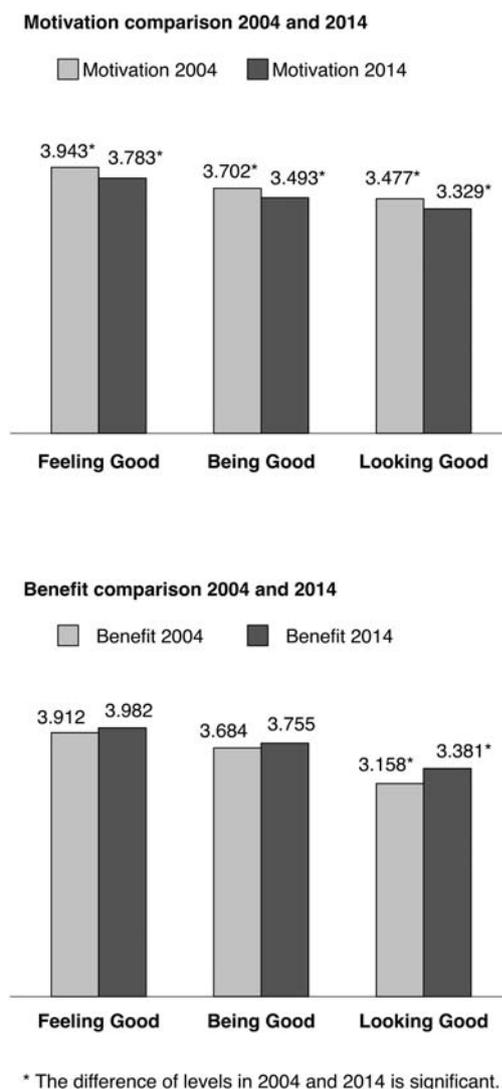


Fig. 3. The comparison of levels of motivation and benefit (2004–2014).

### 5.1. Summary of results

Motivation was significantly higher in 2004 than in 2014 ( $M_{\text{Motivation 2004}} = 3.64$  vs.  $M_{\text{Motivation 2014}} = 3.44$ ). Certificants in 2004 reported higher expectations (motivations) and relatively more internal motivations (achievement, self-development, job skill improvement and professional growth) than reported in 2014, but in 2004, these expectations were not met. Specifically, in 2004 our participants had expectations of career and financial benefits that were not met. This could imply that PM certifications in the earlier years was being oversold, especially on the basis of extrinsic rewards. This experience of the earlier certificants might have led to a lowering of expectations for the certification for future certificants. In this way, certification could have come to be seen as a commodity by 2014. More and more the perception could be that you need to have it but it does not really give you an edge, or increase salary or status.

However, perceived benefits, in total, were significantly higher in 2014 ( $M_{\text{Benefit 2004}} = 3.42$  vs.  $M_{\text{Benefit 2014}} = 3.59$ ) than in 2004, and more closely matched to motivation levels. In 2014, both feeling good and being good (internal) benefits received were higher than what was expected. In other words, in 2014, almost all the expectations from certification are met (only financial benefits were lower than the level expected). Intrinsic motivations (self-development, improve job skills,

Table 5  
Benefit-motivation gap (2004–2014).

		Benefit-motivation gap 2004		Benefit-motivation gap 2014	
Feeling good	Achievement	-0.032 <sup>ns</sup> (p = 0.34)	-0.020 <sup>a</sup> (p = 0.000)	0.195 <sup>a</sup> (p = 0.000)	0.110 <sup>a</sup> (p = 0.000)
	Self-development		-0.048 <sup>a</sup> (p = 0.000)		0.304 <sup>a</sup> (p = 0.000)
Being good	Professional growth	-0.019 <sup>ns</sup> (p = 0.57)	-0.088 <sup>a</sup> (p = 0.015)	0.246 <sup>a</sup> (p = 0.000)	0.082 <sup>a</sup> (p = 0.015)
	Job skill improvement		-0.018 <sup>ns</sup> (p = 0.71)		0.156 <sup>a</sup> (p = 0.000)
	Affiliation		0.08 <sup>ns</sup> (p = 0.18)		0.634 <sup>a</sup> (p = 0.000)
Looking good	Power/status	-0.317 <sup>a</sup> (p = 0.000)	0.056 <sup>ns</sup> (p = 0.19)	0.047 <sup>ns</sup> (p = 0.124)	0.241 <sup>a</sup> (p = 0.000)

ns no significant gap between motivation and benefit.

<sup>a</sup> Significant gap between motivation and benefit.

professional growth, affiliation) were also met and are still there but at lower levels.

In 2014, project managers had lower expectations and motivations. The sharpest drop in the level of motivation from 2004 to 2014 belongs to self-development (-9%), job skill improvement and financial gain (-8%) and career (-7%). The largest amount of increase in the level of benefits from 2004 to 2014 belongs to financial gain (19%) and affiliation (11%) and career (6%) (the benefits ranked at the end of the list of benefits in 2004). As Fig. 4 shows, in 2014, certificants knew better what to expect and were more likely to receive what they

expected, or more than they expected, as the benefit exceeds expectations (feeling good and being good) or matches expectations (looking good). The level of satisfaction of project managers with certification is, in general, higher in 2014 than 2004. However, financial gain is still the main point of disappointment for certified project managers as they report lower effects of certification on their level of payment.

## 6. Discussion

### 6.1. Project managers and certification

There has been much debate in recent years in certification research across disciplines about what is the driving force for certification: being good or looking good (Fertig et al., 2009). We elaborated the research question by adding consideration of feeling good to the debate. Our findings suggest that in the case of project management, there has been a change in the function of project management certification over the period. In 2004, certificants were largely motivated by internal factors associated with increasing knowledge and getting better at managing projects and after the certification process, they largely reported receiving intrinsic rewards. Certification appeared to be meeting the function of helping project managers to *feel good* and *be good* despite the messages around extrinsic or rewards in the market place. The structure of motivation remains stable over the years. In both 2004 and 2014, the motivators for project managers pursuing a certification is largely internal (feeling good and being good) and above all due to needs for achievement and professional growth. Nevertheless, the main difference by 2014 is that most project managers report receiving higher external benefits than in 2004 and, despite the fact that in 2014 the main motivators are internal, the 2004 project managers perceive less internal benefits.

Looking at the gap between expected benefits and realized benefits in 2004 and 2014 (Table 5), we note two important changes. First, almost all of the received benefits are rated higher in 2014 than in 2004, implying perhaps that professionals are recognizing more benefits from their certification today, than in 2004. Second, the results reveal that project managers expect less from a project management certificate in 2014, and at the same time, certification offers more benefits to certified project managers. In 2014, feeling good is still the main motivation paradigm for PM certification, but the perception is that certification helps project managers look

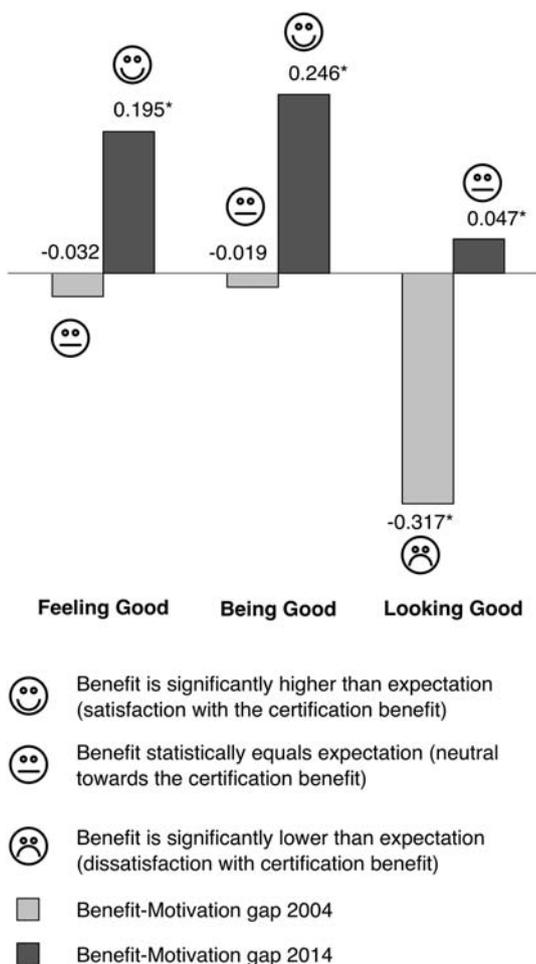


Fig. 4. The changes in Benefit-Motivation gap (2004–2014).

good rather than feel/be good. Although the enthusiasm for certification is not as high as before, it is predicted that project managers will continue to be interested in PM certification, mainly in order to increase their knowledge, skills and employability.

The length of employment with the current employer is negatively correlated with certification. This finding could suggest that PM certification is associated with job changes and perhaps higher marketability. This finding supports the assertion of Lester et al. (2011) with respect to HR professionals, and the work of Fertig (2011), suggesting that one of the main values of certification to individuals, is to increase the transferability of skills and career mobility.

### 6.2. Employing organizations and certification

Our findings also hint at important considerations for organizations that employ project managers. The length of time with current employer and having certification are negatively correlated but causality cannot be inferred from this analysis. It seems that those who perceive higher levels of job security due to long contract are less inclined to pursue certification. The commitment of project managers to their profession rather than their organization might raise the issue of loyalty. Certified project managers who are committed to their profession have higher levels of knowledge, skill, motivation and self-efficacy which consequently lead to a better performance and project success (Blomquist et al., 2016). At the same time, certification increases the employability of the project manager and those advantages may be lost to the organizations. Thus, it is the organization's responsibility to provide the professional work environment (e.g. providing sufficient level of authority and respecting the professional judgment) that will keep certified managers loyal to the organization as well. Certification as a selection criteria for future employees can be another approach in order to maintain the same level of human capital in case of losing employees they have supported to certification. These insights are important and interesting and they raise important further questions from the organization's perspective with respect to the role certification plays in recruiting, retaining, and developing project managers. They also raise some interesting questions about the increasing level of contracting of project managers (and other occupations – see Guile, 2012, Barley and Kunda, 2006, Peel and Inkson, 2004, and Bredin and Söderlund, 2011), and how all of this impacts both the organization and the profession.

### 6.3. Professional PM associations and certification

Previous analysis of project management occupational and professional change can be useful to interpret our findings, as in the last decade we witnessed a rapid expansion in acceptance of professional bodies in the field. We use two alternative and contrasting sociological conceptions of professionalism as the theoretical background: profession as value system vs. profession as ideology (Evetts, 2003). Both in 2004 and 2014, PM certification outputs regarding status and power,

outperform expectations. As noted earlier, in the trait theory of professions, certification is thought to offer credibility, exclusive ownership of an area of expertise, discretion in the work and control over the process of the work. The power embedded in the certification lies within the definition of profession as an ideology of occupational power (Larsson, 1977). In 2004 and 2014, the PM certification benefit regarding affiliation also outperforms the expectations. From a value system perspective, a profession is defined as a form of moral community based on occupational membership. The community, by sharing a common professional training, creates a sense of belonging and common experiences, understanding and expertise (i.e. shared value system). The certification, through affiliation, lets project managers to connect and share work practices and create a common body of knowledge and occupational identity. PM certification has assisted in shaping the PM profession by both creating a shared value system (through affiliation) as well as an established ideology (through benefit of status/power). Evetts (2003) proposed the formation of the third conception of profession in recent decades, which combines the two previous interpretations. In the current occupational and organizational contexts, knowledge work and globalization of economies is prominent. Therefore, project managers, and in general knowledge workers, “have to, and indeed choose to, reconstitute themselves in occupational forms which incorporate career development alongside the self-managing and self-motivated employee” (Evetts, 2003). In other words, the certified employees show that they are self-motivated, and able to perform the task in a professional way, as their main motivators are internal, concerned with learning, improving skills and professional growth. In return, organizations reward those internally motivated employees who have reached the target (i.e. certification) with career promotion and higher level of power to influence organizational decisions. This is in congruence with our finding that project managers are internally motivated and externally rewarded.

One result that deserves some discussion because of its interesting implications, is the finding that the higher the level of certification held, the higher affiliation (being a member of like-minded professionals) ranked in terms of both motivation for, and benefits realized from, certification. This suggests that the more specialized these practitioners become within the occupation, the more common practice becomes socially constructed by these networks of professionals (Dobbin et al., 1993). Similarly, the more closely affiliated the professional groupings become, the more they create professional routines through coercive, normative and mimetic influence (Oliver, 1997). The more these self-referential groupings interact to create normalized *best practices* the greater the sense of belonging to, and the value recognized from, this affiliation becomes. In this way, these professional bodies serve to socialize new recruits, and even to control entrance to the occupation (Powell, 1991; DiMaggio and Powell, 1983; Greenwood et al., 2002). This finding and discussion supports, and perhaps explains, Morris et al.'s (2006b) assertion that the project management bodies of knowledge become more and

more difficult to change or refine as time goes on. If affiliation is the valued benefit of certification, and not the drive to *be good* at the occupation, then there is no value in changing the basis upon which certification is assessed if it in any way challenges the certifications already granted, as this might threaten affiliation and impose additional costs on the membership.

Finally, these results shed light on why professionals have chosen to invest time and money in acquiring a voluntary certification at two points of time. Our 2014 results support other studies, in suggesting that voluntary certifications are largely about *looking good*, or signaling to the employer that they know the common standards of practice for the occupation (Bartley, 2007). Thus, certification provides legitimacy which in turn generates a certain level of trust in potential employers, contractors or partners. This legitimacy, or trust generating benefit of project management certification, is based on the expectation that it allows/enables/requires project managers to *be good* at the job. Certification thus holds significant value to practitioners, employers, organizations and professional bodies, only as long as the belief survives that standardization and certification actually leads to improvements in practice. Maintaining the relevance of the certification as being based on *best practice* and having a direct relation to what is needed to be successful at the occupation, is thus critical to maintaining the viability of the professional claims and the professional associations revenue streams associated with certification. Otherwise, it might be said that certification is at risk of becoming a commodity necessary to take part in the job market where it would be especially important for new and younger persons entering the job market. Established professionals on the other hand would be able to live on their previous work history and reputation.

#### 6.4. Theoretical contribution

Building on earlier work suggesting two primary functions of certification, being good and looking good, we used a self-determination theory (SDT) lens to elaborate further on potential reasons for attaining certification. We identify three distinct types of motivation based on self-determination theory: feeling good, being good and looking good. We develop three motivation constructs and develop and verify a scale for empirical measurement purposes. These three types of motivation include: (a) feeling good, an intrinsic motivation related to enjoying or valuing the certification itself and not its external consequences; (b) being good motivation, measures internal motivation that reflects conscious valuation of a behavioral goal (i.e. attaining certificate) and internalizing it (i.e. the project manager has evaluated attaining certification personally important and has brought it into congruence with other values and needs that reflects performing well at the job); and (c) looking good (an extrinsic motivation related to gaining external reward due to certification). Confirmatory factor analyses empirically supports existence of this structure. We identify three distinct types of motivation, each of which has specifiable consequences for learning, performance, and

personal experience (Ryan and Deci, 2000) that can open new areas of research. The relationship between motivation to certify and performance is an interesting topic deserving further investigation.

#### 7. Conclusion

We set out to examine the motivations and benefits for pursuing one particular voluntary certification, that of project management professionals, at two points in time. This research provides empirical evidence for why professionals pursue project management certification and compares responses across a decade span to give an indication of how these perceptions may be changing with the increased popularity of the certification. At the highest level we can say that participants pursuing certification in 2004 reported higher levels of motivations but less received benefits than in 2014. The project managers in 2014 are more satisfied with the benefits receive from certification.

These findings have implications for the individuals seeking certification, those certified, employers, the certification, and certifying organizations. For individuals seeking certification today, these results suggest that the benefits of certification today are more aligned with *looking good* than *being good* but because certification has become so legitimated in the labor market, it is still an important career move to gain the certification while recognizing that alternative modes of self-improvement will be necessary to be a good project manager. For those who have already achieved certification, the changing nature of the rewards associated with certification are both a reflection of the work they have done to improve the status of the occupation and, perhaps, that the certification processes and content has not kept pace with the reality of managing projects. For employers, these results suggest that they must recognize that certification improves mobility and transferability of skills across organizations, and that may ultimately result in more turnover. The certifying organizations face the risk of becoming obsolete if they do not find a way to increase the intrinsic motivation and rewards for this certification. Finding a way for expert project managers to continue to grow in their practice and contribute to, and recognize the value of, project management certification will be a critically important task for both professional associations and practitioners moving forward. Ultimately, reconciling these discrepancies without undermining the perceived value of the certification will be a critical balancing act for these groups.

More than these practical and empirical results, this research contributes theoretically to the constructs we have to understand these motivations. In HR studies, there has been much discussion of whether certification is about *being good* or *looking good* largely differentiated by the types of benefits that motivate certificants (Fertig, 2011). We add the notion of feeling good to this conceptualization. Our study suggests that professionals in 2004 were more focused on *feeling good* and *being good*, while those in 2014 are witnessing realization of *looking good* benefits as well.

As with any research, there are flaws in this study that can, and should, be addressed in future research. First, the sample is biased, in that it mostly reflects those professionals who were active in their professional associations, and who might therefore be more socialized to recognizing benefits from certification. A sample of project managers including both professional association members and those not affiliated with such an organization may provide further interesting insights. Second, our measurement regarding looking good and external benefits is subjective, and the measures are self-reported. Future research needs to address the gap in the research between certification and objective measures of project manager performance, financial rewards (perhaps by measuring the amount of salary increases), and organizational position. Third, while this study provides interesting insights into what motivates project managers to obtain certification, and what benefits they perceive they have received from the efforts, it says nothing about their commitment and attitudes towards the occupation. That is, are certified project managers more likely to exhibit the traits associated with members of a profession than non-certified project managers? Are they more likely to be committed to, and satisfied with, the occupation? Fourth, this research hints at some important considerations for organizations employing project managers with respect to the role certification plays in recruiting, retaining and developing project managers however it does not explore this area in any detail. This paper's focus on the perspective of the individual project manager's perceptions of the benefits of certification precludes much investigation of these important, organizational questions which are left to future research. Finally, as suggested by a reviewer, this data set, with two samples collected 10 years apart may provide the opportunity to explore some of the recent discussion of the increasing projectification of work (see for example, Guile, 2012, Barley and Kunda, 2006, Peel and Inkson, 2004, and Bredin and Söderlund, 2011) and the idea that with the move to temporary, project-linked work, project management professionals have become more loyal to the profession than to an employer. With further analysis, this data set might also provide insight into how generational differences and work structure changes over time may be contributing to the changes in value perception over time. We believe we have the data to do this and look forward to presenting this exploration of other influences on motivators and views of the benefits of certification in the future.

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### Conflict of interest

The authors have no conflict of interest to report.

### References

- Aguinis, H., Lengnick-Hall, M.L., 2012. Assessing the value of human resource certification: a call for evidence-based human resource management. *Hum. Resour. Manag. Rev.* 22 (4), 281–284.
- Albert, K., 2017. The certification earnings premium: an examination of young workers. *Soc. Sci. Res.* 63 (1), 138–149.
- Barley, S.R., Kunda, G., 2006. Contracting: a new form of professional practice. *Acad. Manag. Perspect.* 20 (1), 45–66.
- Barley, T., 2007. Institutional emergence in an era of globalization: the rise of transnational private regulation of labor and environmental conditions. *Am. J. Sociol.* 113 (2), 297–351.
- Blomquist, T., Söderholm, A., 2002. How project management got carried away. In: Sahlin-Andersson, K., Söderholm, A. (Eds.), *Beyond Project Management. New Perspectives on the Temporary-Permanent Dilemma*. Liber, Malmö, pp. 25–38.
- Blomquist, T., Thomas, J., 2008. Certifiering av projektledare. In: Stjernberg, Söderlund, J., Wikström, E. (Eds.), *Projektliv: Villkor för uthållig projektverksamhet*. Studentlitteratur, Lund, pp. 159–173.
- Blomquist, T., Farashah, A.D., Thomas, J., 2016. Project management self-efficacy as a predictor of project performance: constructing and validating a domain-specific scale. *Int. J. Proj. Manag.* 34 (8), 1417–1432.
- Bredin, K., Söderlund, J., 2011. The HR quadriad: a framework for the analysis of HRM in project-based organizations. *Int. J. Hum. Resour. Manag.* 22 (10), 2202–2221.
- Byrne, M., Valentine, W., Carter, S., 2004. The value of certification – a research journey. *Acad. Manag. J.* 79 (4), 825–835.
- Carter, S.D., 2005. The growth of supply and demand of occupational-based training and certification in the United States, 1990–2003. *Hum. Resour. Dev. Q.* 16 (1), 33–54.
- Cowen, M., Hodgson, D., 2015. Damaged identities: examining identity regulation and identity work of Gulf project managers. *Int. J. Proj. Manag.* 33 (7), 1523–1533.
- Craig, C.S., Douglas, S.P., 2011. Assessing cross-cultural marketing theory and research: a commentary essay. *J. Bus. Res.* 64 (6), 625–627.
- Deci, E.L., Ryan, R.M., 1985. The general causality orientations scale: self-determination in personality. *J. Res. Pers.* 19 (2), 109–134.
- Deci, E.L., Ryan, R.M., 2000. The “what” and “why” of goal pursuits: human needs and the self-determination of behavior. *Psychol. Inq.* 11 (4), 227–268.
- Deci, E.L., Olafsen, A.H., Ryan, R.M., 2017. Self-determination theory in work organizations: the state of a science. *Ann. Rev. Organ. Psychol. Organ. Behav.* 4 (1), 19–43.
- DiMaggio, P.J., Powell, W.W., 1983. The iron cage revisited: institutional isomorphism and collective rationality in organizational fields. *Am. Sociol. Rev.* 48 (2), 147–160.
- Dobbin, F., Sutton, J.R., Meyer, J.W., Scott, R., 1993. Equal opportunity law and the construction of internal labor markets. *Am. J. Sociol.* 99 (2), 396–427.
- Evetts, J., 2003. The sociological analysis of professionalism: occupational change in the modern world. *Int. Sociol.* 18 (2), 395–415.
- Fertig, J., 2011. Evaluating that piece of paper: the effect of motivation and certification status on occupational commitment and job competence. *J. Leadersh. Org. Stud.* 18 (1), 118–126.
- Fertig, J., Zeitz, G., Blau, G., 2009. Building internal motivation for worker competency certifications: a critique and proposal. *Hum. Resour. Dev. Rev.* 8 (2), 197–222.
- Foti, R., 2001. Forecasting the future of project management. *PM Netw.* 15 (10), 28–31.
- Gagné, M., Forest, J., Gilbert, M., Aubé, C., Morin, E., Malorni, A., 2010. The motivation at work scale: validation evidence in two languages. *Educ. Psychol. Meas.* 70 (4), 628–646.
- Greenwood, R., Suddaby, R., Hinings, C.R., 2002. Theorizing change: the role of professional associations in the transformation of institutionalized fields. *Acad. Manag. J.* 45 (1), 58–80.
- Guile, D., 2012. Inter-professional working and learning: ‘recontextualising’ lessons from ‘project work’ for programmes of initial professional formation. *J. Educ. Work.* 25 (1), 79–99.

- Hair Jr., J.F., Hult, G.T.M., Ringle, C., Sarstedt, M., 2016. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Sage Publications.
- Haskins, M., Hnatiuk, C.N., Yoder, L.H., 2011. Medical-surgical nurses' perceived value of certification study. *Medsurg Nurs.* 20 (2), 71–77 (93).
- Henseler, J., Ringle, C.M., Sarstedt, M., 2015. A new criterion for assessing discriminant validity in variance-based structural equation modeling. *J. Acad. Mark. Sci.* 43 (1), 115–135.
- Higgins, W., Hallström, K.T., 2007. Standardization, globalization and rationalities of government. *Organization* 14 (5), 685–704.
- Hodgson, D.E., Paton, S., 2016. Understanding the professional project manager: cosmopolitans, locals and identity work. *Int. J. Proj. Manag.* 34 (2), 352–364.
- Hordern, J., 2015. Higher apprenticeships in England: professional and vocational formation. *Int. J. Train. Res.* 13 (3), 174–193.
- Kleiner, M.M., 2006. *Licensing Occupations: Ensuring Quality or Restricting Competition?* WE Upjohn Institute
- Krause, L., 2014. *The National Board of Professional Teaching Certification: Teacher Motivation, Benefits, and Burdens.* (Doctoral dissertation). University of Illinois at Urbana-Champaign.
- Larsson, M.S., 1977. *The Rise of Professionalism: A Sociological Analysis.* University of California Press, Berkeley.
- Lee, L., Reinicke, B., Sarkar, R., Anderson, R., 2015. Learning through interactions: improving project management through communities of practice. *Proj. Manag. J.* 46 (1), 40–52.
- Lehr, J.K., Rice, R.E., 2002. Motivation, organizational identification, and experiences of the quality examiner. *Qual. Manag. J.* 9 (1), 63–90.
- Lengnick-Hall, M.I., Aguinis, H., 2012. What is the value of human resource certification? A multi level framework for research. *Hum. Resour. Manag. Rev.* 22 (4), 246–257.
- Lester, S.W., Dwyer, D.J., 2012. Motivations and benefits for attaining HR certifications. *Career Dev. Int.* 17 (7), 584–605.
- Lester, S.W., Fertig, J., Dwyer, D.J., 2011. Do business leaders value human resource certification. *J. Leadersh. Org. Stud.* 18 (3), 408–414.
- Lipner, R.S., Bylsma, W.H., Arnold, G.K., Fortna, G.S., Tooker, J., Cassel, C.K., 2006. Who is maintaining certification in internal medicine—and why? A national survey 10 years after initial certification. *Ann. Intern. Med.* 144 (1), 29–36.
- Loufrani-Fedida, S., Saglietto, L., 2016. Mechanisms for managing competencies in project-based organizations: an integrative multilevel analysis. *Long Range Plan.* 49 (1), 72–89.
- Morris, P.W., Crawford, L., Hodgson, D., Shepherd, M.M., Thomas, J., 2006a. Exploring the role of formal bodies of knowledge in defining a profession—the case of project management. *Int. J. Proj. Manag.* 24 (8), 710–721.
- Morris, P.W., Jamieson, A., Shepherd, M.M., 2006b. Research updating the APM body of knowledge 4th edition. *Int. J. Proj. Manag.* 24 (6), 461–473.
- Oliver, C., 1997. The influence of institutional and task environment relationships on organizational performance: the Canadian construction industry. *J. Manag. Stud.* 34 (1), 99–124.
- Peel, S., Inkson, K., 2004. Contracting and careers: choosing between self and organizational employment. *Career Dev. Int.* 9 (6), 542–558.
- Phillips, J.T., 2004. Professional certification: does it matter? *Inf. Manag.* 38 (6), 64–67.
- Pinto, J.K., Winch, G., 2016. The unsettling of “settled science:” the past and future of the management of projects. *Int. J. Proj. Manag.* 34 (2), 237–245.
- Pollack, J., Algeo, C., 2015. Should project management aspire to be an archetypal profession: evidence from Australian-based research. *Int. J. Proj. Organ. Manag.* 7 (4), 352–368.
- Powell, W.W., 1991. Expanding the scope of institutional analysis. In: Powell, W.W., DiMaggio, P.J. (Eds.), *The New Institutionalism in Organizational Analysis*. University of Chicago Press, pp. 183–203.
- Ramazani, J., Jergeas, G., 2015. Project managers and the journey from good to great: the benefits of investment in project management training and education. *Int. J. Proj. Manag.* 33 (1), 41–52.
- Richardson, J.J., 2016. *The Value of Human Resource Certification Institute Professional Certification for HR Employees and HR Employers.* (Ph.D. Dissertation). Northcentral University.
- de los Ríos, I., Puente, J.M.D., Almela, J.M., 2010. The impact of IPMA-certification system: effects on the employability from the point of view of different stakeholders. Selected Proceedings from the 14th International Congress on Project Engineering: Madrid, June-July 2010. *Asociación Española de Dirección e Ingeniería de Proyectos (AEIPRO)*, p. 23.
- Ryan, R.M., Deci, E.L., 2000. Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *Am. Psychol.* 55 (1), 68–78.
- Sachau, D.A., 2007. Resurrecting the motivation-hygiene theory: Herzberg and the positive psychology movement. *Hum. Resour. Dev. Rev.* 6 (4), 377–393.
- Shackman, G., 2015. Accreditation, certification, credentialing: does it help? *N. Dir. Eval.* 145 (1), 103–113.
- Starkweather, J.A., Stevenson, D.H., 2011. PMP certification as a core competency: necessary but not sufficient. *Proj. Manag. J.* 42 (1), 31–41.
- Varma, A., Min Toh, S., Pichler, S., 2006. Ingratiation in job applications: impact on selection decisions. *J. Manag. Psychol.* 21 (3), 200–210.
- Wilensky, H.L., 1964. The professionalization of everyone? *Am. J. Sociol.* 70 (2), 137–158.
- Wiley, C., 1995. Reexamining professional certification in human resource management. *Hum. Resour. Manag.* 34 (2), 269–289.
- Wilkinson, A., Hislop, D., Coupland, C., 2016. The changing world of professions and professional workers. *Perspectives on Contemporary Professional Work: Challenges and Experiences.* Elgar online <https://doi.org/10.4337/9781783475582.00009>.
- Zwerman, W.L., Thomas, J., 2001. Barriers on the road to professionalisation. *PM Netw.* 15 (4), 50–62.
- Zwerman, W.L., Thomas, J.L., Haydt, S., Williams, T.A., 2004. *Professionalization of Project Management: Exploring the Past to Map the Future.* Project Management Institute, Newtown Square, Pennsylvania.