

# **Innovative Apps for Cross-cultural Human Resource Development: Theory and Empirical Research**

## **Masterarbeit**

Zur Erlangung des akademischen Grades “Master of Science (M.Sc.)” im Masterstudiengang Wirtschaftswissenschaft der Wirtschaftswissenschaftlichen Fakultät der Leibniz Universität Hannover

Vorgelegt von

Natasa Sarcevic

Prüfer: Prof. Dr. Breitner

Hannover, den 01. Oktober 2012

<b>1</b>	<b><i>Introduction</i></b>	<b>1</b>
<b>2</b>	<b><i>Theoretical aspects</i></b>	<b>1</b>
<b>2.1</b>	<b>The functionality of apps in daily life</b>	<b>2</b>
2.1.1	Definition and statistics of mobile apps usage .....	2
2.1.2	The impact of mobile games .....	6
2.1.3	How social media and especially Facebook influence daily life and work .....	7
2.1.4	The impact of news and weather apps on traditional publishing .....	9
2.1.5	The future of mobile apps and the impact on daily live .....	9
<b>2.2</b>	<b>Methods of the current study</b>	<b>10</b>
2.2.1	Current studies – survey among nurses in Canada .....	11
2.2.1.1	Profile of the participants and how the study was introduced .....	11
2.2.1.2	Criteria of the questionnaire.....	12
2.2.1.3	Response rates and results of the study .....	13
2.2.2	Current study – survey among students in California .....	14
2.2.2.1	Profile of the participants and how the study was carried out .....	14
2.2.2.2	Response rates and results of the study .....	15
2.2.3	Conclusion and outlook – how web-based surveys will develop .....	15
<b>2.3</b>	<b>Apps as multifunctional tools of human resource development.....</b>	<b>16</b>
2.3.1	Reasons why human resources employ mobile apps.....	16
2.3.2	The Rodbard Study – an introduction to mobile application in a work environment.....	17
2.3.3	Mobile Learning – the future of human resource education.....	18
2.3.4	Workflow applications in human resources .....	20
2.3.5	Human resources information systems .....	20
<b>2.4</b>	<b>Cross cultural human resources development.....</b>	<b>21</b>
2.4.1	A definition of culture and cross cultural human resources development.....	21
2.4.2	Human resources development in an international environment.....	22
2.4.3	The risk of and requirements of cross-cultural training .....	23
2.4.4	The strong role of mobile phones in the developing world.....	24
<b>2.5</b>	<b>Conclusion of the current situation of the use of mobile apps in human resource management .....</b>	<b>25</b>
<b>3</b>	<b><i>Scenario Development - The capabilities of apps in the context of cross-cultural human resources management</i></b>	<b>25</b>
<b>3.1</b>	<b>Implementation of handheld devices in a medical facility.....</b>	<b>26</b>

3.2    How mobile learning applications get adopted in different work environments .....	28
3.3    The use of mobile devices in different parts of the world and what happens if these two groups have to interact .....	29
3.4    The use of mobile apps in the human resources recruitment process and its effect on different industries .....	30
3.5    Conclusion and a future outlook how mobile apps will be used in human resources management .....	31
<b>4    <i>Empirical research: a survey among German young professionals</i></b>	
<b>32</b>	
4.1    Research design.....	32
4.2    Results .....	33
4.2.1    Descriptive statistics .....	33
4.2.2    Additional Data .....	42
4.2.3    Correlations .....	44
4.3    Discussion .....	45
<b>5    <i>Conclusions: the future of apps in human resource development</i></b>	51
5.1    Future developments .....	51
5.2    Recommended procedures .....	55
5.2.1    Identification of strategic priorities .....	55
5.2.2    Product Development.....	57
5.2.3    Technical requirements for the introduction of Apps.....	58
5.3    The relevance of the acceptance of the apps.....	59
5.3.1    Placement of apps in the App Store by Apple.....	59
5.3.2    Model projects at universities .....	60
<b>6    <i>Final Remarks</i></b> .....	61
<b>References.....</b>	65

## **1 Introduction**

The aim of the present study is to present the target prospects and potential of apps in the context of human resource development. The focus is on the field of intercultural human resource development.

In the theoretical section (Section 2) the most important general aspects of the current importance of apps are to be worked out. The theoretical analysis of the categories of personnel development plays an important role in this section.

In the following section scenarios are developed. These scenarios are intended to test the capabilities of apps in the context of exploring cross-cultural human resources development. In developing these scenarios, the analysis will focus on training and development costs and on possible savings.

This study also includes an empirical part: In a survey of German young professionals the conditions for the use of innovative apps are investigated. This involves the question of whether people accept these apps as tools of intercultural training and whether they get involved with the requirements of these instruments.

Future perspectives and recommendations for companies complete the present study.

## **2 Theoretical aspects**

The invention and development of application for mobile devices has been growing rapidly. How those tools are already used and what their impact might be in the future in working life will be outlined in the following chapter.<sup>1</sup>

---

<sup>1</sup> Jackson, S., Schuler, R., Werner, S., (2011): Managing Human resources, Vol. 2 Mason, USA, p. 54

nance research projects that serve the purpose of exploring the properties of the product. Such a project can generate added value for the universities and for the students. This added value is based on the free use of software, which specializes in cross-cultural training.

The development of the model project can also be promoted in different countries. It is possible to support projects abroad in order to test the different performance characteristics of the product and to test the acceptability of the product on the foreign markets.

## 6 Final Remarks

The empirical investigation and theoretical investigation of this research topic have shown that the problems here are still poorly understood. In the scientific literature yet no comprehensive key considerations have been raised regarding the different strategic perspectives of Apps in intercultural training. It has been shown that this is a complex strategic issue that can not be solved without extensive market research and strategic product development.

Problems for the study of the market have been discovered mainly in the context of the knowledge of potential customers. The market is therefore difficult to assess because the potential customers know not much or nothing at all about the meaning of the use of Apps in the field of intercultural training. It has also been shown that there are many prejudices and misconceptions of the meaning of the Apps, and that the cross-cultural training is itself often reduced to the improvement of linguistic skills.

The investigations have also shown that the work of the development of apps in this area is still in its infancy. There is little experience with such applications. The development of product strategies is complicated due to the tendency of fragmentation in the market.

One of the major challenges associated with the future of apps in this area is therefore the question of risk management in product development. The development of Apps is an investment that later cannot be undone: it is not

possible to change Apps so that they can be used in other areas because they have to be specialized for strategic reasons.

Risk management is an interdisciplinary task: the exploration of the market, researching the latest technological developments and the exploration of the inherent potential of the Apps has to be brought together. All these developments are also connected with the potential cost savings, which customers may realize through the use of Apps.

In some areas, the potential use of Apps also requires strategic choices that cannot be made rationally from a business point of view. This raises questions that can be answered only from a philosophical point of view. The main question in this context is whether one can replace the activity of people with Apps. This question cannot be answered by empirical investigations nor by technical developments. It is a cultural issue that must be handled by society.

An important question is whether the quality of traditional methods of intercultural training can be reached at all by the use of Apps. Obviously, this quality can not be fully *reproduced*, because the contact with people can not be reproduced by any contact with computers. The question is whether a similar quality can be managed, and whether the quality is sufficient for practical use.

The question of substitution of human labour in the field of intercultural training is a cultural issue. It does not make sense to answer it from a business or a technical point of view. Here the issues of acceptance do play a large role, much more than the aspect of an objective quality control.

The future of Apps in the field of intercultural training is so fraught with a number of uncertainties that are difficult to calculate. These uncertainties also have to do with political issues that can not be controlled from the perspective of a company at all.

The survey of German young professionals has also shown that the above-indicated questions right now still play a minor role in society and in enterprises. This fact can, however, also suggest that it is absolutely necessary, to fill open positions on the market as soon as possible, so that a good starting position is secured for future developments of the market in any case. The

developments of recent years clearly show that a delayed market entry leads to extreme difficulties in the performance of the products.<sup>98</sup>

The large market potential of the apps is facing a major strategic risk in product development. It is not yet clear how these risks and opportunities can be harmonized with each other. Beginnings of such harmonization should probably be followed by the general acceptance of Apps in the different areas of potential use. Unfortunately, companies can influence the development of this acceptance only on a very limited level.

Obviously, the potential acceptance of Apps in this area depends largely on the technical developments. The conclusion of this study should be based on the fact that the development of the market may be illustrated by the example of the interactive voice function “Siri”.

The interactive voice function “Siri” was developed in 2010 by Apple. It was introduced in autumn 2011 for mobile devices from Apple by default, and as of summer 2012, introduced to the basic systems of the desktop computers of the same company. This function provides excellent interactive voice recognition software that can be used for other Apps too.

If this App is a great success and the market takes up the App very well, costs for developing interactive speech software are to fall dramatically, because the respective apps only need to be placed on this language feature. Providing an interactive speech software of comparable quality would improve dramatically, however, the price of an App.

The market success and the future market potential of Apps for interactive language training therefore depends significantly on the success of “Siri”: If the app passes through, other major suppliers, in particular Windows, will not be able not to improve their interactive language software and to integrate them into their default OS. In such a case, the products will be sold very cheap and therefore have a strong position on the market for other platforms.

But if “Siri” does not penetrate, the prices for interactive language software are to increase significantly. It is then more difficult to make a cost advantage

---

<sup>98</sup> E.g., the fate of Research in Motion („Blackberry“).

plausible to the potential customers. The market opportunities for intercultural language training in the range of Apps will fall dramatically.

These considerations show that providing a strategic capacity for the use of Apps in cross-cultural training is limited. This is obviously almost impossible without the consideration of the technical environment.

Cultural factors do play a big role here: If “Siri” is a great success on the desktop computers, then the cultural conditions for the acceptance of Apps in the area of interactive language training will rise. If people use this function by default, they are familiar with the use of interactive Apps of this type, and the threshold for the use of products in this area will decrease significantly.