CHAPTER 1
Research Methods in Informatics

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1.1 DEFINITION OF CONCEPTS

1.1.1 Informatics

Informatics is everywhere. Nearly every area of our lives (community, arts, health, business, science) is influenced and enhanced by informatics. Informatics examines not just the technologies we use but how, why, where, and when we use the technologies. The term "informatics" has different definitions depending on where it is used. In Europe, for instance, computer science is referred to as informatics. In the United States, however, informatics is linked with applied computing, or computing in the context of another domain.

Basically, informatics and computer science are related fields, but they have distinct focuses. Computer science primarily deals with the theoretical foundations of computation and algorithms, including designing and developing software and hardware systems. Informatics, on the other hand, is broader and encompasses the study of information processing, management, and application across various domains, often including aspects of social, organizational, and human-computer interaction. While there's overlap between the two, computer science tends to be more focused on the technical aspects of computing, while informatics takes a broader view that can

involve a combination of technical and non-technical considerations. So informatics, in general, studies the intersection of people, information, and technology systems. It focuses on the ever-expanding, ubiquitous, and embedded relationship between information systems and the daily lives of people, from simple systems that support personal information management to massive distributed databases manipulated in real time. The field helps design new uses for information technology that reflect and enhance the way people create, find, and use information, and it takes into account the strategic, social, cultural, and organizational settings in which those solutions will be used. Growth and MacKie-Mason (2010) suggested that informatics cover the heterogeneous fields which involve the interaction between people, information and technology as shown in Figure 1.1.

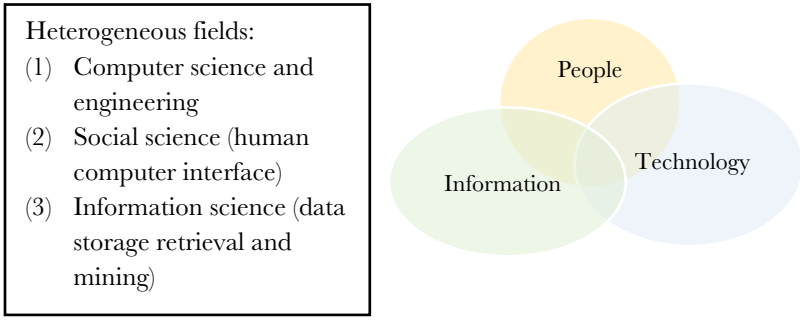

Figure 1.1 Definition of informatics (Groth & MacKie-Mason, 2010)

Hagiya (2015) defined informatics as the combination of bun-kei (social sciences and humanities) and ri-kei (natural science and engineering) as shown in Figure 1.2.

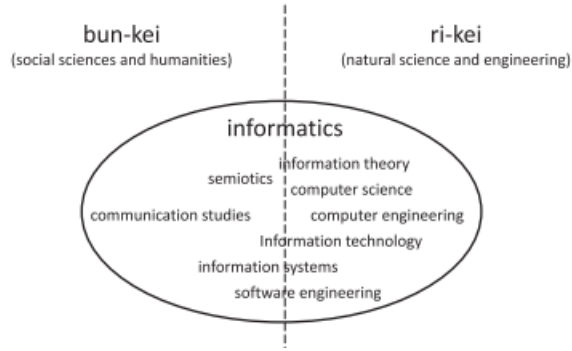

Figure 1.2 Definition of Informatics (Hagiya, 2015)

There are various fields of domain informatics such as management informatics (study of management information), socio-informatics, educational informatics, design informatics, music informatics etc. Hagiya (2015) conclude informatics as a field of science for creating value from information.

1.1.2 Research Methods

There are many different definition of research methods. Kothari (2004) defined research methods as all those methods or techniques that are used for conducting research. Keeping this in view, research methods can be put into the following groups:

(1) Methods that are concerned with the collection of data.
(2) Analytical tools of research which consist of statistical techniques to interpret the data including methods to evaluate the accuracy of the results obtained.

So, research method can be defined as a systematic and structured set of techniques, procedures, and tools or instruments used by researchers to collect, analyse, and interpret data in order to investigate and address specific research